DRAFT

REMEDIAL INVESTIGATION

REPORT
VOLUME VI

HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.

APRIL 1990
(REVISED AUGUST 1992)

APPENDIX 12

Logs of Wells Installed in 1983

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Site A

DATE 08/24/83 PAGE 1 OF 3 PAGES

LOCATION: North side of plant east of Tech. Service Lab

DATE COMPLETED: September 2, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable Tool

SAMPLING METHOD: Split Spoon & Bailer

SAMPLES EXAMINED BY: J. Naso, R. Lamonica

REFERENCE POINT: Grade 134.2 ft. above MSL

ELEVATION OF R.P.: A-1 137.52 ft. MSL, A-2 136.73 ft. MSL

WELL CONSTRUCTION
SCREEN TYPE: wire-wrapped stainless steel
DIAM.: 2-inch SLOT NO.: 10
SETTING: A-2 105 to 112 ft.; A-1 54 to 67 ft. BGL
GRAVEL PACK SIZE: Grade 1 New Jersey*
CASING: 2-inch stainless steel
DEVELOPMENT: A-1 10 hrs. air-lift; A-2, 3 hrs.

PUMPING TEST: None
DATE:
DURATION:
STATIC WATER LEVEL: A-1 78.46 ft MSL, A-2 78.15 ft MSL
PUMPING WATER LEVEL:
YIELD: A-1 1 gpm, A-2 7 gpm

REMARKS: Portland cement - Deep zone: 100 to 80 feet. Shallow zone: 48 feet to grade. *Gravel pack - Deep zone: 115 to 101 feet with addition of very fine sand pack from 101 to 100 feet. Shallow zone: 48 to 80 feet.

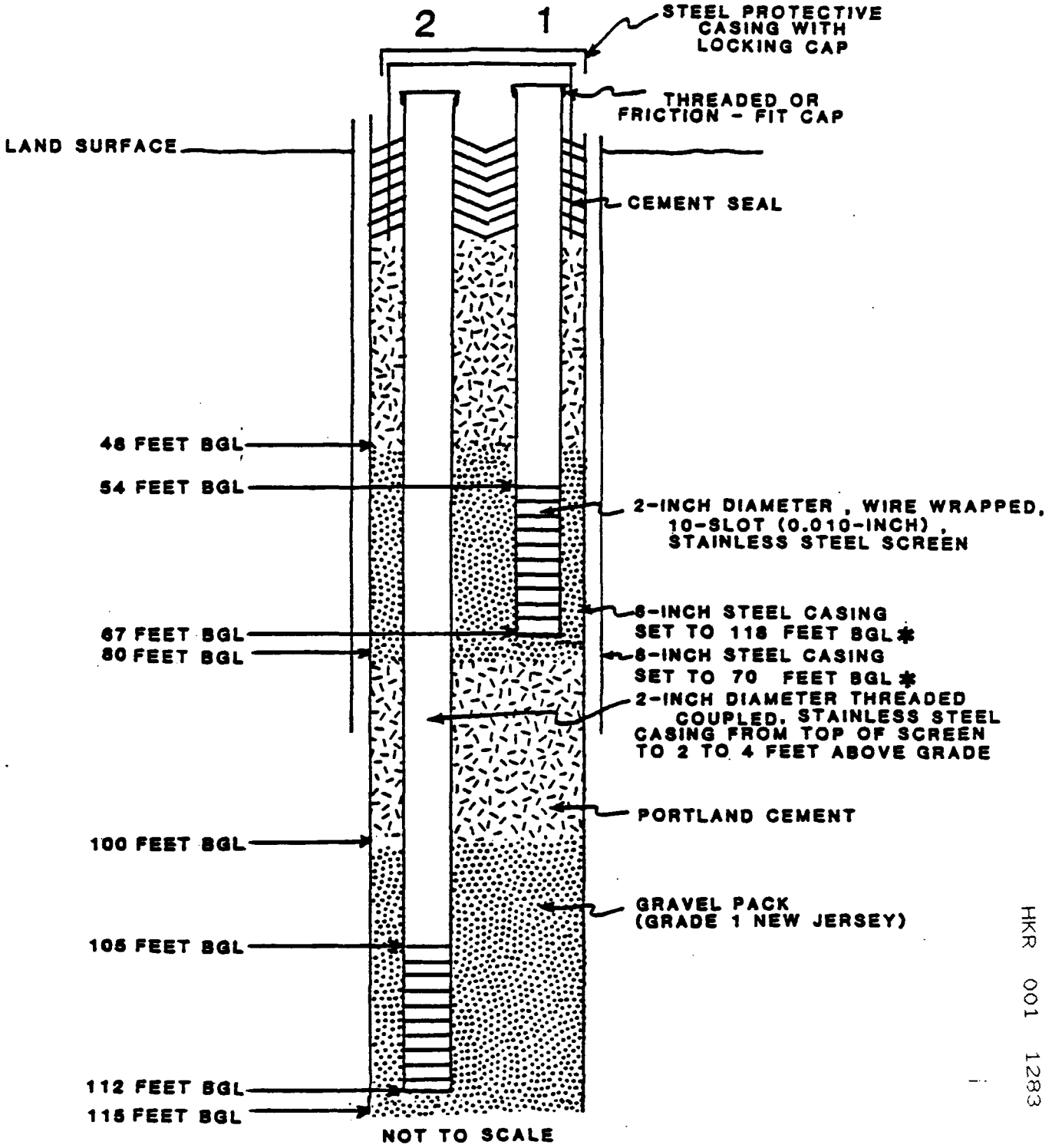
DEPTH IN FEET FROM	TO	DESCRIPTION
Grade	0.5	Brown soil consisting of silt and very fine sand; no odor.
0.5	2.5	Silt, and very fine sand, brown and subangular pebbles. (Split spoon).
3	5	Pebbles and cobbles; some gravel, very coarse sand and tan clay. (Bailer sample).
5	7	Sand, very fine to coarse, tan to brown, pebbles, and cobbles. (Split spoon).
5	10	Cobbles, pebbles, and very fine to very coarse, tan to brown sand. (Bailer sample).
10	12	Sand, very coarse, tan, gravel and pebbles. (Split spoon).
10	15	Gravel, cobbles and very fine to very coarse, tan to brown sand. (Bailer sample).
15	17	Sand, very fine to very coarse, tan to brown, and gravel. (Split spoon).
15	20	Gravel, cobbles and very fine to very coarse, tan to brown sand. (Bailer sample).
20	22	Sand, very fine to coarse, tan to brown, and gravel; some pebbles and silt. (Split spoon).
20	25	Gravel, pebbles, cobbles, very fine to very coarse, tan to brown sand and silt. (Bailer sample).
25	27	Sand, very fine to very coarse, tan to brown; silt and gravel; some pebbles. (Split spoon).

DEPTH IN FEET FROM	TO	DESCRIPTION
25	30	Sand, very fine to very coarse, tan to brown; gravel and pebbles; some
		cobbles. (Bailer sample).
30	32	Sand, fine to medium, tan; some gravel. (Split spoon).
32	35	Sand, fine to coarse, tan; gravel, and stones; no odor. (Bailer sample)
35	37	Gravel and fine to coarse tan, sand and stones. (Bailer sample).
37	41	Gravel and fine to coarse tan, sand and stones; some iron oxide;
		no odor. (Bailer sample).
41	43	Gravel and fine to coarse tan, sand and stones; some iron oxide;
		no odor. (Split spoon).
41	45	Sand, fine to medium, yellowish-tan; some gravel. (Bailer sample).
45	47	Top 6 inches: Sand, fine to medium, red and tan; trace gravel.
		Middle 6 inches: Sand, fine to medium, tan; trace gravel.
		Bottom 6 inches: Sand, fine to medium, red; trace white clay.
		(Split spoon).
45	50	Sand, fine to medium, multicolored with red, yellow and gray sandy clay,
		clayey sand; few white-gray clay streaks. (Bailer sample).
50	52	Sand, fine to medium, and tan, red, yellow, white, gray, clayey sand and
		sandy clay. (Split spoon).
50	60	Sand, fine to medium, and tan, red, yellow, white, gray, clayey sand and
		sandy clay. (Bailer sample).
60	65	Sand, fine, tan and red, layers of multicolored (red, white, gray,
		yellow) clay, sandy clay and clayey sand; some fine gravel, trace
		red silt or clay.

DEPTH IN FEET FROM	TO	DESCRIPTION
	63	Sand, fine, tan and red, layers of multicolored (red, white, gray, yellow) clay, sandy clay and clayey sand; some fine gravel, trace of red silt, clay and large fragments of conglomeratic oxidized sandstone. (Bailer sample).
65	70	Sand, fine, some medium and coarse; and streaks fine multicolored sandy clay and clayey sand; some streaks clay. (Bailer sample).
70	72	Sand, fine to medium; some yellow silt. (Bailer sample).
72	74	Sand, fine to medium, trace yellow silt.
		Bottom 1 inch: Multicolored clayey sand. (Split spoon).
77	86	Sand, fine to medium, tan; streaks multicolored (red, white, yellow) sandy clay, clayey sand and clay, and iron concreted sandstone. (Bailer sample).
87	89	Sand, fine to medium, tan; streaks white clay, sandy clay and clayey sand. (Bailer sample).
	89	2 to 3-inch layer of clay, light gray with streaks multicolored sandy clay. (Bailer sample).
90	92	Sand, fine, tan, streaks light gray clay; some mica. (Bailer sample).
92	106	Sand, fine, tan; some white, trace red clay, sandy clay and clayey sand. (Bailer sample).
106	109	Sand, fine, some medium, tan; trace white, some red silt and clay. (Bailer sample).
109	112	Sand, fine to medium, tan; trace red clay.
112	116	Sand, fine to medium, tan; trace light gray clay. (Bailer sample).
117	118	Clay, sandy clay and clayey sand, black, gray, white, red, interbedded, and stiff.
	118	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE A



*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1283

LEGGETTE, BRASHEARS & GRAHAM, INC.

GEOPHYSICAL WELL LOG

LEGGETTE, BRASHEARS & GRAHAM
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
LOCATION Former OCC Ruco Division Plantsite
Hicksville, New York
WELL NO. A
DRILLING METHOD Cable Tool
DEPTH DRILLED 118 feet
DEPTH LOGGED 114 feet
DEPTH SCALE 20 feet/inch
LOGGED BY Robert Lamonica

DATE August 29, 1983
DRILLER R. H. Lauman & Associates, Inc.
REFERENCE POINT Land Surface
ELEVATION 134.2 feet above mean sea level.
CASING 8-inch to 60 feet; 6-inch to 118 feet;
HOLE DIAMETER 6-inch (inner casing)

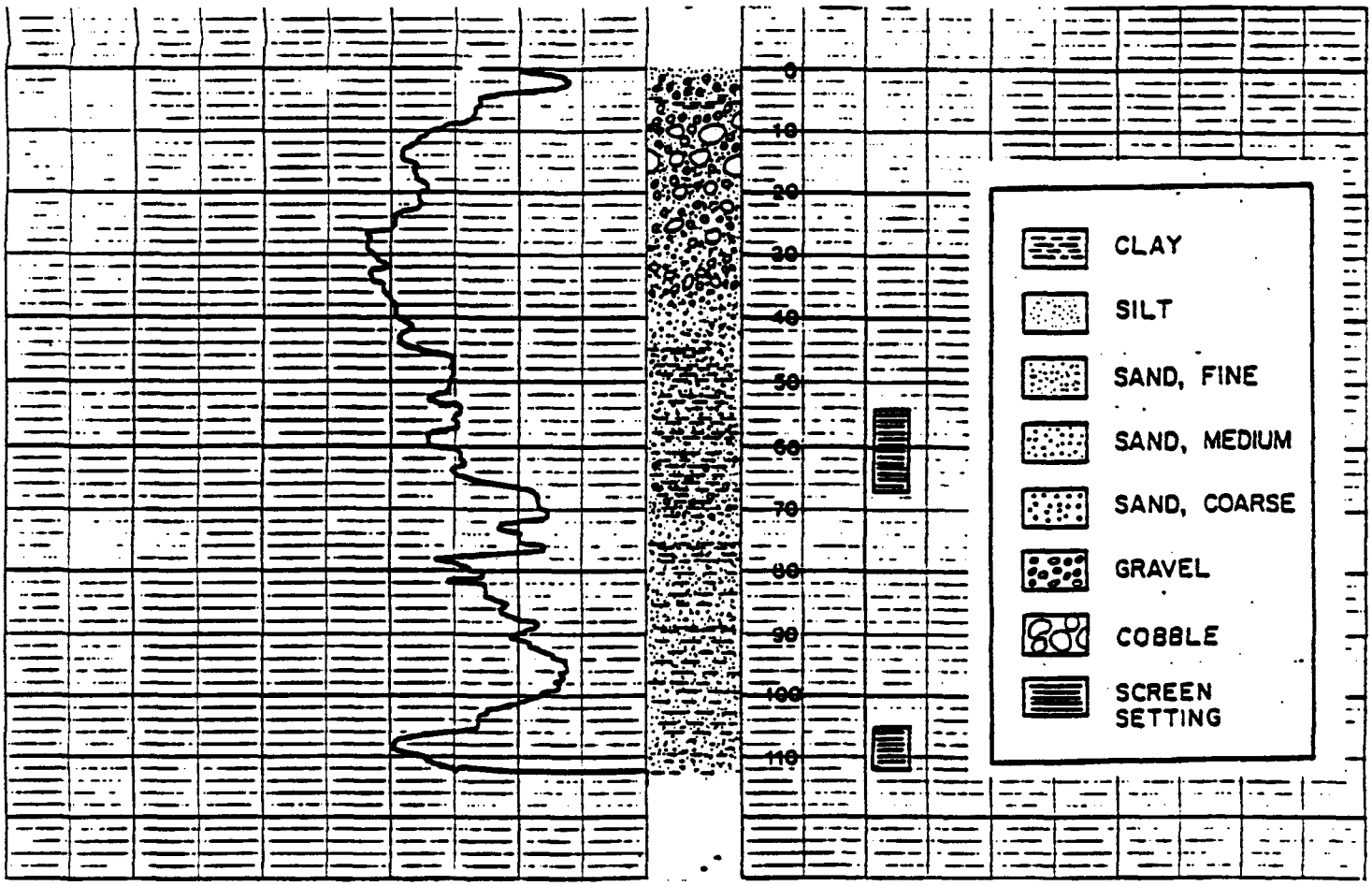
REMARKS Static water level about 58.5 feet below grade.

GAMMA RAY

SCALE: 16 counts/second/inch
TIME CONSTANT: 3 seconds
LOGGING RATE: 25 feet/minute

Increasing Radiation

Geologist's Log



WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Site B

DATE 09/07/83 PAGE 1 OF 4 PAGES

LOCATION: Front of parking lot near road

DATE COMPLETED: September 14, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable Tool

SAMPLING METHOD: Bailer and split spoon

SAMPLES EXAMINED BY: J. Naso, R. Lamonica, C. Fricke

REFERENCE POINT: Land Surface
~~130.5 ft. above MSL~~

ELEVATION OF R.P.: B-1 132.65 ft. MSL
~~B-2 132.64 ft. MSL~~

WELL CONSTRUCTION
SCREEN TYPE: wire-wrapped stainless steel

DIAM. 2-inch SLOT NO. 10

SETTING: 104-86 ft.; 69-49 ft.

GRAVEL PACK SIZE: Grade 1 New Jersey*

CASING: 2-inch stainless steel

DEVELOPMENT: B-1 24 hrs. air-lift
B-2 4 hrs. air-lift

PUMPING TEST: None

DATE:

DURATION:

STATIC WATER LEVEL: B-1 77.86 ft MSL
~~B-2 77.92 ft MSL~~

PUMPING WATER LEVEL:

YIELD: B-1 1.5 gpm
~~B-2 3 gpm~~

REMARKS: Portland cement -
~~Deep zone: 80-69 feet~~
Shallow zone: 44 feet to grade.
*Gravel Pack Setting -
~~Deep Zone: 104 to 81~~ feet, additional 1 foot of very fine sand pack from 80 feet to 81 feet.
Shallow zone: 70 to 44 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Topsoil, brown, silt, pebbles no odor. (Split spoon).
Grade	5	Gravel, very fine to medium (1/8 to 2 inch), round to subangular, multicolored; and very fine to very coarse, subangular to angular tan sand; some brown silt, trace of broken bricks and glass fragments. Discharge = Muddy brown. (Bailer sample).
5	7	Gravel, fine to medium, subangular quartz; sand, very fine to very coarse; brown. (Split spoon).
5	10	Gravel, very fine to medium (1/8 to 1 inch), round to subangular, white; some multi-colored, and very fine to medium, subangular to angular, tan sand; little brown silt. Discharge - Buff brown. (Bailer sample).
10	12	Sand, very fine to very coarse, tan; gravel, very fine to very coarse. (Split spoon).
10	15	Gravel, fine to medium, round to subangular, multicolored and very coarse to fine, angular, tan sand. Discharge = Buff brown. (Bailer sample).
15	17	Sand, very fine to very coarse tan; silt; gravel, fine to medium; brown. (Split spoon).

DEPTH IN FEET FROM	TO	DESCRIPTION
15	20	Sand, very fine to very coarse, angular , tan, and very fine to medium (1/8 to 1 inch) round to subangular, multicolored gravel. Discharge = Buff brown. (Bailer sample).
20	22	Sand very fine to very coarse, subangular to angular; gravel, fine to medium, rounded; brown. (Split spoon).
20	25	Sand, very fine to very coarse, angular, tan, and very fine to fine (1/8 to 3/4 inch), subangular, multicolored gravel; little iron oxide. (Bailer sample).
25	27	Sand, fine to medium, trace coarse; trace of silt; brown with gray streaks. (Split spoon).
25	30	Sand, very fine to coarse, subangular to angular, tan and very fine to medium, round to subangular, multicolored gravel; little iron oxide. Discharge = Buff brown. (Bailer sample).
30	32	Gravel, medium to fine; sand, very fine to very coarse; trace of silt. (Split spoon).
30	35	Sand, very fine to coarse, subangular to angular, tan and very fine to medium, round to subangular, multicolored gravel; little iron oxide. Discharge = Buff brown. (Bailer sample).
34.5	36.5	Sand, fine to medium; some coarse; gravel, fine; brown; trace of red clay. (Split spoon).
35	40	Gravel, very fine to medium, round to subangular, some angular, multi-colored, and very fine to very coarse, angular to subangular, tan, sand. Discharge = Buff brown. (Bailer sample).

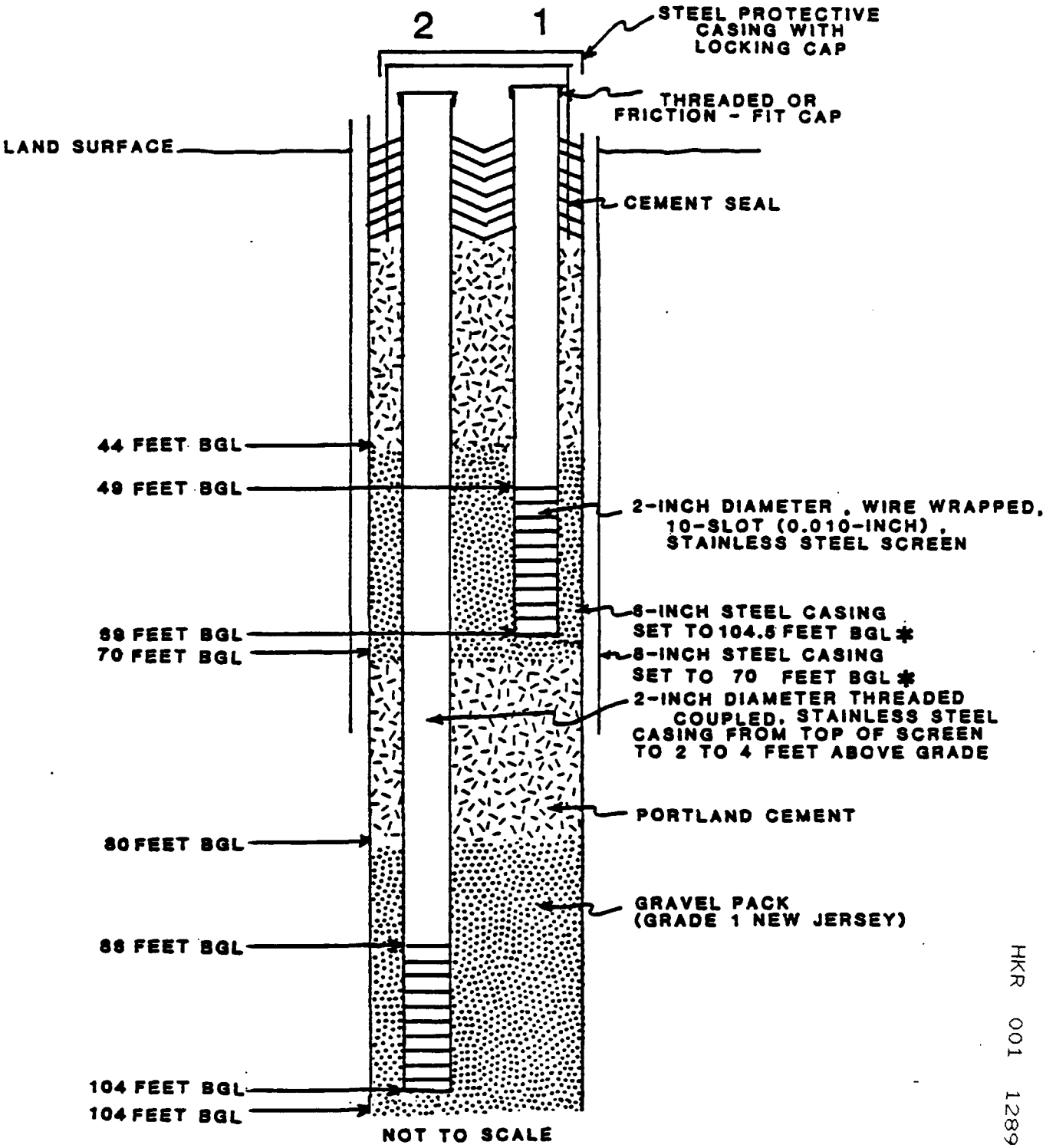
DEPTH IN FEET FROM	TO	DESCRIPTION
40	42	Sand, fine to very coarse; gravel, fine to medium; brown; trace of iron oxide staining. (Split spoon).
40	45	Sand, very fine to coarse, subangular tan and very fine to fine (1/8 to 3/4 inch), round to subangular, multicolored gravel; little brown silt. Discharge = Buff brown. (Bailer sample).
45	46.5	Sand, fine to coarse, brown; trace of gravel; much iron oxide staining at 46.3 feet. (Split spoon).
46.5	47	Sand, fine to medium, gray; trace of silt; trace of clay, gray-white. (Split spoon).
45	50	Sand, very fine to fine, buff and gray; some white, red and yellow sandy clay. Discharge = Grayish-yellowish buff. (Bailer sample).
50	52	Sand, fine, some medium; trace of silt; trace of clay, gray-white; no odor. (Split spoon).
50	55	Clayey sand; sand, very fine to fine, gray, with some white clay with little red and yellow streaks. Discharge = Buff yellow. (Bailer sample).
55	60	Clayey sand; sand, very fine to fine, gray, with some white clay; trace streaks of yellow clayey sand and iron oxide spots. Discharge = Buff yellow.
60	65	Sand, very fine, tan; some grayish-white clay with little yellow clay, few sandstone fragments, trace of iron oxide. Grades to very fine, tan sand.

Discharge = Buff brown.

DEPTH IN FEET FROM	TO	DESCRIPTION
65	72	Sand, very fine, tan with little brown silt and trace of muscovite; some thin black and gray clay layers interbedded with gray and little orange (iron oxide) clayey sand. Discharge = Buff brown.
72	78	Sand, very fine to fine, orange; little brown silt, trace muscovite. Discharge = orange.
78	84	Clayey sand, very fine, gray and orange; trace of very fine, black sand and muscovite. Discharge grades from buff to gray-brown.
84	88	Sand, very fine, gray-tan; some gray-tan silt. Discharge = Grayish-tan.
90	94	Sand, very fine, gray-tan; some gray-tan silt. Discharge = Gray-tan.
96	104	Sand, very fine, buff; little buff silt. Discharge = tan.
	104.5	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE B



*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1289

LEGGETTE, BRASHEARS & GRAHAM, INC.

GEOPHYSICAL WELL LOG

LEGGETTE, BRASHEARS & GRAHAM
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
LOCATION Former Occidental Chemical Corporation
Plantsite, Hicksville, New York
WELL NO. B
DRILLING METHOD Cable tool
DEPTH DRILLED 104 feet
DEPTH LOGGED 104 feet
DEPTH SCALE 20 feet/inch
LOGGED BY M. Susca and C. Fricke

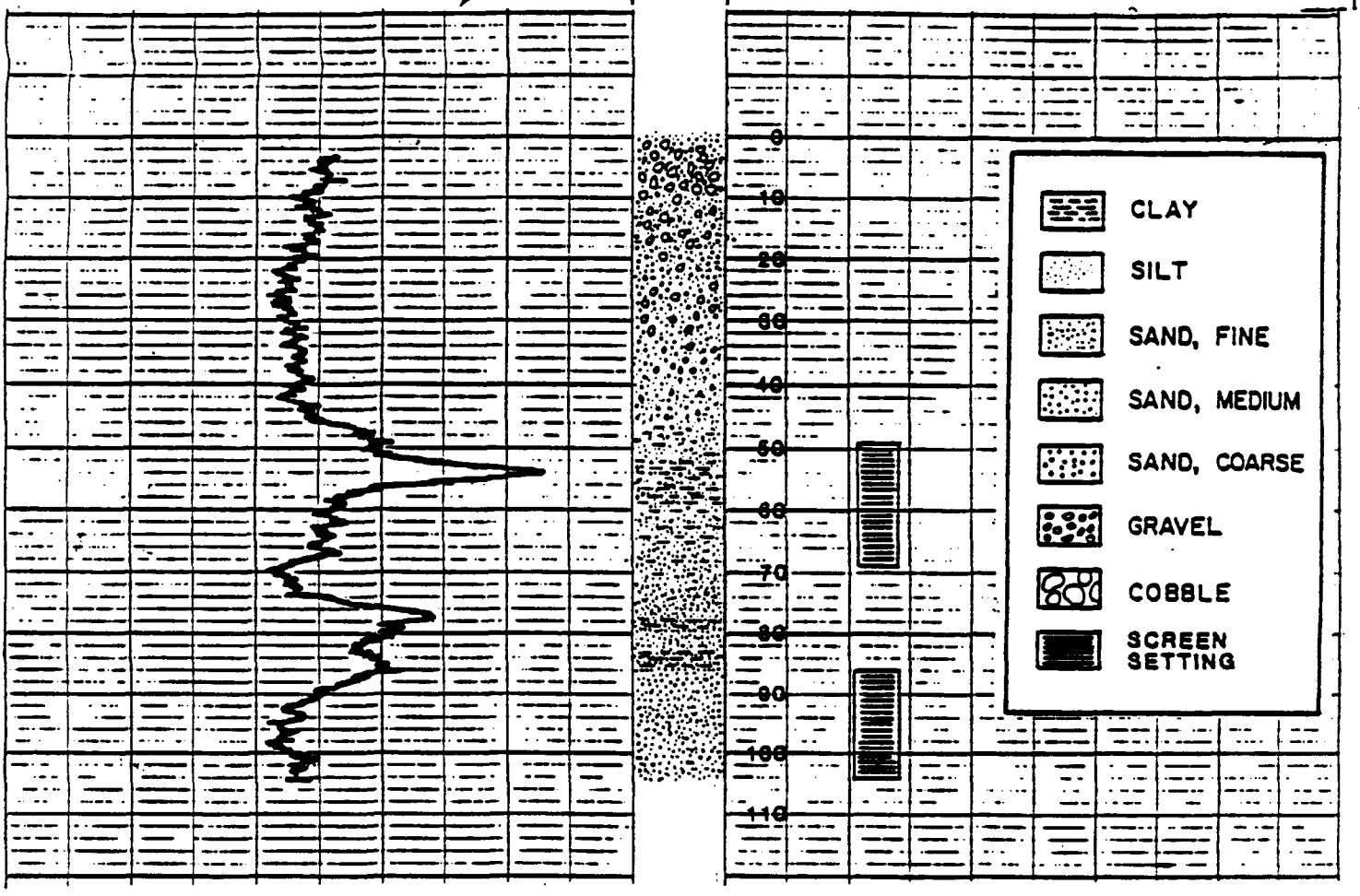
DATE September 9, 1983
DRILLER R. H. Lauman & Associates, Inc.
REFERENCE POINT Grade
ELEVATION 130.5 feet above mean sea level
CASING 70 feet of 8 inch; 104 feet of 6 inch
HOLE DIAMETER 6-inch to 104 feet
REMARKS Static water level about 54.7 feet below grade.

GAMMA RAY

Scale: 5 counts/second/inch
Time Constant: 3 seconds
Logging Rate: 25 feet/minute

Increasing Radiation →

Geol-ogist's Log



WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Ruberman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Site C

DATE 09/10/83 PAGE 1 OF 4 PAGES

	DEPTH IN FEET FROM	TO	DESCRIPTION
LOCATION: Behind building 2 near shallow sump	4	8	Cobbles, round, multicolored and very coarse to
DATE COMPLETED: September 23, 1983			very fine, subangular to round, multi-
DRILLING COMPANY: R. H. Lauman & Associates, Inc.			colored gravel; some very coarse to very
DRILLING METHOD: Cable Tool			fine, tan sand.
SAMPLING METHOD: Bailer and split spoon			Discharge = Muddy tan.
SAMPLES EXAMINED BY: C. Fricke	8	15	Sand, very coarse to very fine, tan and very
REFERENCE POINT: Land surface			coarse to very fine, subangular to round,
ELEVATION OF R.P.: 133.3 ft. above MSL C-1 135.62 ft. MSL C-2 135.60 ft. MSL			multicolored gravel; little very fine, multicolored cobble.
WELL CONSTRUCTION SCREEN TYPE: wire-wrapped stainless steel			Discharge = Muddy tan.
DIAM. 2-inch SLOT NO. 10	15	20	Gravel, very fine, angular, multicolored, and
SETTING: 50 to 70 ft.; 114 to 124 ft.			very fine to medium, tan sand; some rounded,
GRAVEL PACK SIZE: Grade 1 New Jersey*			multicolored cobbles and coarse, rounded
CASING: 2-inch stainless steel			to subangular multicolored gravel.
DEVELOPMENT: C-1 11 hrs. airlift 4½ hrs. bailer			Discharge = Muddy tan.
C-2 6½ hrs. airlift	20	25	Sand, very fine to medium, tan and very fine
PUMPING TEST: None			angular multicolored gravel; some medium,
DATE			subangular, multicolored gravel and coarse,
DURATION			tan sand; little multicolored quartz
STATIC WATER LEVEL: C-1 78.68 ft. MSL C-2 77.69 ft. MSL			cobbles, trace silt.
PUMPING WATER LEVEL			Discharge = Cloudy tan.
YIELD: C-1 1 gpm C-2 6 gpm	25	30	Sand, very fine to coarse, tan and very fine to
REMARKS: Portland cement - Deep zone: 74-103 Shallow zone: 42.5-grade			fine rounded multicolored, gravel; trace
*Gravel pack setting - Deep zone: 103-124 Shallow zone: 74-42.5			brown silt.
			Discharge: Cloudy brown.

HKR 001 1291

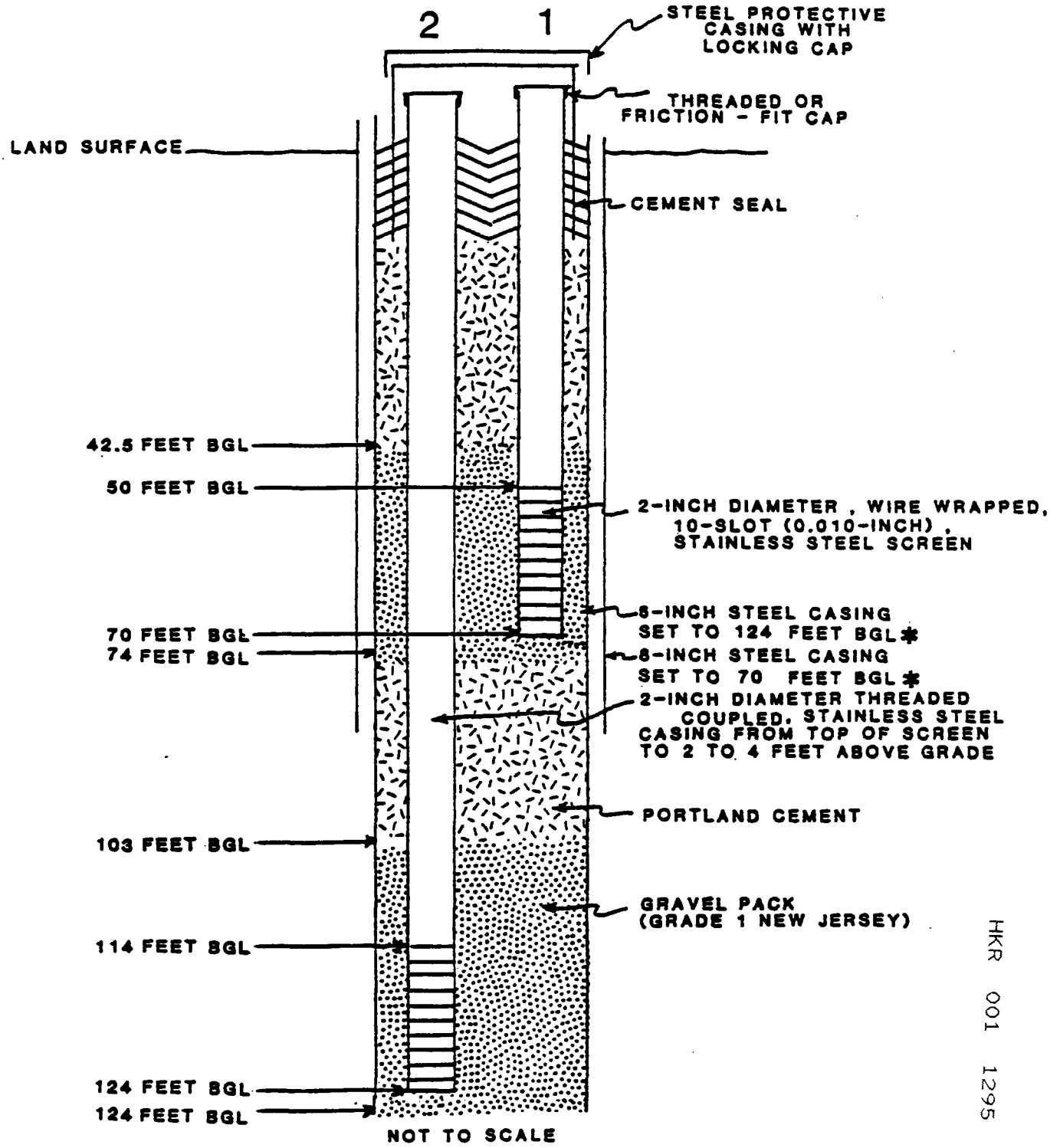
DEPTH IN FEET FROM	TO	DESCRIPTION
30	35	Sand, very fine, some very coarse, tan and very fine to fine rounded
		to subangular, multicolored gravel; trace brown silt.
		Discharge = Muddy brown.
35	38	Sand, very fine to very coarse tan and very fine to medium, subangular
		to angular, multicolored gravel; some angular oxidized sandstone
		fragments, little brown silt.
		Discharge = Muddy orange-brown.
38	40	Gravel, very fine to medium, angular, multicolored, and very coarse,
		tan sand; some oxidized sandstone nodules, little silt.
		Discharge = Orange-brown.
40	45	Gravel, very fine to fine, subangular to angular, multicolored and very
		fine to very coarse, tan sand; some oxidized sandstone nodules;
		little silt.
		Discharge = Muddy brown.
45	50	Sand, very fine to fine, angular tan; little brown silt and 1-inch to
		1 1/2-inch layers of very fine to fine orange clayey sand with
		1/8-inch layer oxidized sandstone interbedded, trace very fine sub-
		angular white gravel.
		Discharge = Buff-brown.
	50	Sand, coarse to very fine, gray; some gray and black (oily sheen) clayey
		sand; mild odor.
		Discharge = Gray.
50	55	Sand, very coarse to very fine, orangish-tan; some orange, gray, white
		and red interbedded clayey sand and sandy clay.
		Discharge = Muddy brown.

DEPTH IN FEET FROM	TO	DESCRIPTION
	55A	Sand, medium to very fine, gray; some gray, little yellow and trace
		red clay and sandy clay interbedded with white and black clayey
		sand; fishy odor.
		Discharge = Gray.
	55B	Sand, coarse to very fine, gray and black, gray, and red, some
		yellowish-tan interbedded sandy clays.
		Discharge = Gray.
55	60	Clay, and sandy clay, gray, yellow, black, white and orangish-red,
		interbedded; some fine to very fine gray sand; chemical odor.
		Discharge = Gray.
60	65	Sand, very fine, some very coarse and gray; little (interbedded) gray
		and black clay with yellow sandy clay.
		Discharge = Gray.
65	70	Sandy, very fine to fine tan and interbedded white, yellow, red, orange
		and trace pink, clay.
		Discharge = Grayish-tan.
70	80	Clay, gray; little very fine, gray clayey sand; trace oxidized sand-
		stone nodules.
		Discharge = Gray.
80	85	Clay, gray; some orange, red and gray sandy clay, few oxidized sandstone
		nodules.
		Discharge = Gray-tan.
85	90	Sandy clay, very fine sand, buff brown with gray clay; trace nodules
		of sandstone.
		Discharge = Buff-brown.

DEPTH IN FEET FROM	TO	DESCRIPTION
90	104	Sandy clay, interbedded layers gray, yellow and black; some very fine,
		tan sand and tan clay.
	104	Clayey sand, very fine, buff-gray.
104	108	Sand, very fine, buff to gray and gray clay; few lenses of gray sandy
		clay.
		Discharge = Buff to gray.
108	114	Sand, very fine, gray and gray clay.
		Discharge = Buff-gray.
115	120	Sand, very fine, buff-gray; some gray clay.
		Discharge = Buff-gray.
122	124	Sand, fine, tan; some silt.
	124.5	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE C



*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1295

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Test Boring C

DATE 1/13/84 PAGE 1 OF 2 PAGES

LOCATION: In shallow sump north of building 2.

DATE COMPLETED: July 8, 1983

DRILLING COMPANY: R.H. Lauman & Associates, Inc.

DRILLING METHOD: Cable tool - 6 inch

SAMPLING METHOD: Split Spoon and Bailer.

SAMPLES EXAMINED BY: J. Naso

REFERENCE POINT: Sump bottom

ELEVATION OF R.P.: 127.4 ft. above MSL

WELL CONSTRUCTION
SCREEN TYPE: None

DIAM. _____ SLOT NO. _____

SETTING _____

GRAVEL PACK SIZE _____

CASING _____

DEVELOPMENT _____

PUMPING TEST
DATE _____

DURATION _____

STATIC WATER LEVEL: 48.6 ft. below grade

PUMPING WATER LEVEL _____

YIELD _____

REMARKS: 6-inch casing withdrawn and test boring grouted to surface.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Sand, very fine to medium, white and brown. (Split spoon).
0	5	Sand, very coarse, tan; gravel, medium to coarse, angular to subangular quartz; no odor. (Bailer sample).
5	7	Sand, fine to very coarse, brown; gravel fine to to medium; no odor. (Split spoon).
10	12	Sand, medium to coarse, with some fine, tan; gravel, fine to very coarse; slight odor. (Split spoon).
10	15	Gravel, fine to very coarse; sand, fine to very coarse, tan. (Bailer sample).
15	17	Gravel, fine to very coarse; large subangular pebbles; sand, fine to very coarse; trace of clay, gray. (Split spoon).
15	20	Gravel, medium to very coarse; sand, fine to very coarse; trace of clay, white and gray. (Bailer sample).
20	22	Sand, coarse to very coarse with some fine, tan; gravel, fine to very coarse, angular to subangular quartz; trace of clay, red. (Split spoon).
25	27	Sand, very coarse to fine, tan; gravel, fine to medium; trace of clay, red, white, gray. (Split spoon).

OWNER Whiteman, Osterman & Hanna, Former OCC Ruco Division, Hicksville, New Yo

WELL NO. Test Boring C PAGE 2 OF 2 PAGES

DEPTH IN FEET FROM	TO	DESCRIPTION
30	32	Sand, fine to coarse, brown; gravel fine to medium; iron oxide staining at 32 feet. (Split spoon).
30	35	Gravel, fine to very coarse, angular to subangular quartz; sand, fine to very coarse; iron oxide staining. (Bailer sample).
35	37	Sand, fine to medium, tan to white; gravel, fine to coarse; brown; no odor. (Split spoon).
35	40	Sand, medium to very coarse with some fine; tan. (Bailer sample).
40	42	Sand, fine to coarse, tan to gray; trace of clay, gray. (Split spoon).
40	45	Sand, fine to medium, with some very fine, tan. (Bailer sample).
45	47	Sand, fine to medium, with some very fine, tan; trace of clay, gray; no odor. (Split spoon).
47	50	Sand, medium to coarse, some fine, gray; some gravel; pieces of clay, brown.
50	52	Top 6 inches: Sand, very fine to medium, with some coarse, light gray; streaks of clay, red, gray, tan.
		Bottom 6 inches: Sand, very fine to medium, dark gray; trace of clay and silt, gray. (Split spoon).
52	54	Sand, very fine to medium, gray-green; clay, white, gray, yellow. (Split spoon).

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD
WILTON, CT. 06897

OWNER ~~Whiteman, Osterman & Hanna~~ Former OCC Ruco Division ~~Hicksville, New York~~

WELL NO. ~~Site D~~

DATE 08/11/83 PAGE 1 OF 3 PAGES

LOCATION: North of fire water tanks, 30 feet from fence

DATE COMPLETED: August 16, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable Tool

SAMPLING METHOD: Split Spoon & Bailer

SAMPLES EXAMINED BY: R. Lamonica

REFERENCE POINT: Grade 130.1 ft. above MSL

ELEVATION OF R.P.: D-1 132.37 ft. MSL; D-2 132.22 ft. MSL

WELL CONSTRUCTION: SCREEN TYPE: wire-wrapped stainless steel

DIAM.: 2-inch SLOT NO.: 10

SETTING: 86 to 91 ft.; 45 to 65 ft.

GRAVEL PACK SIZE: Grade 1 New Jersey*

CASING: 2-inch stainless steel

DEVELOPMENT: D-1 2 hrs. airlift, 13 hrs. bailer; D-2 4 hrs. airlift

PUMPING TEST: None

DATE:

DURATION:

STATIC WATER LEVEL: D-1 77.64 ft. MSL; D-2 77.48 ft. MSL

PUMPING WATER LEVEL:

YIELD: D-1 1 gpm; D-2 4.5 gpm

REMARKS: Cement - Deep zone: 81.5 to 65; Shallow zone: 41 to grade.

*Gravel pack settings- ~~Deep zone: 81.5 to 91~~ feet. ~~Shallow zone: 41 to~~ 65 feet.

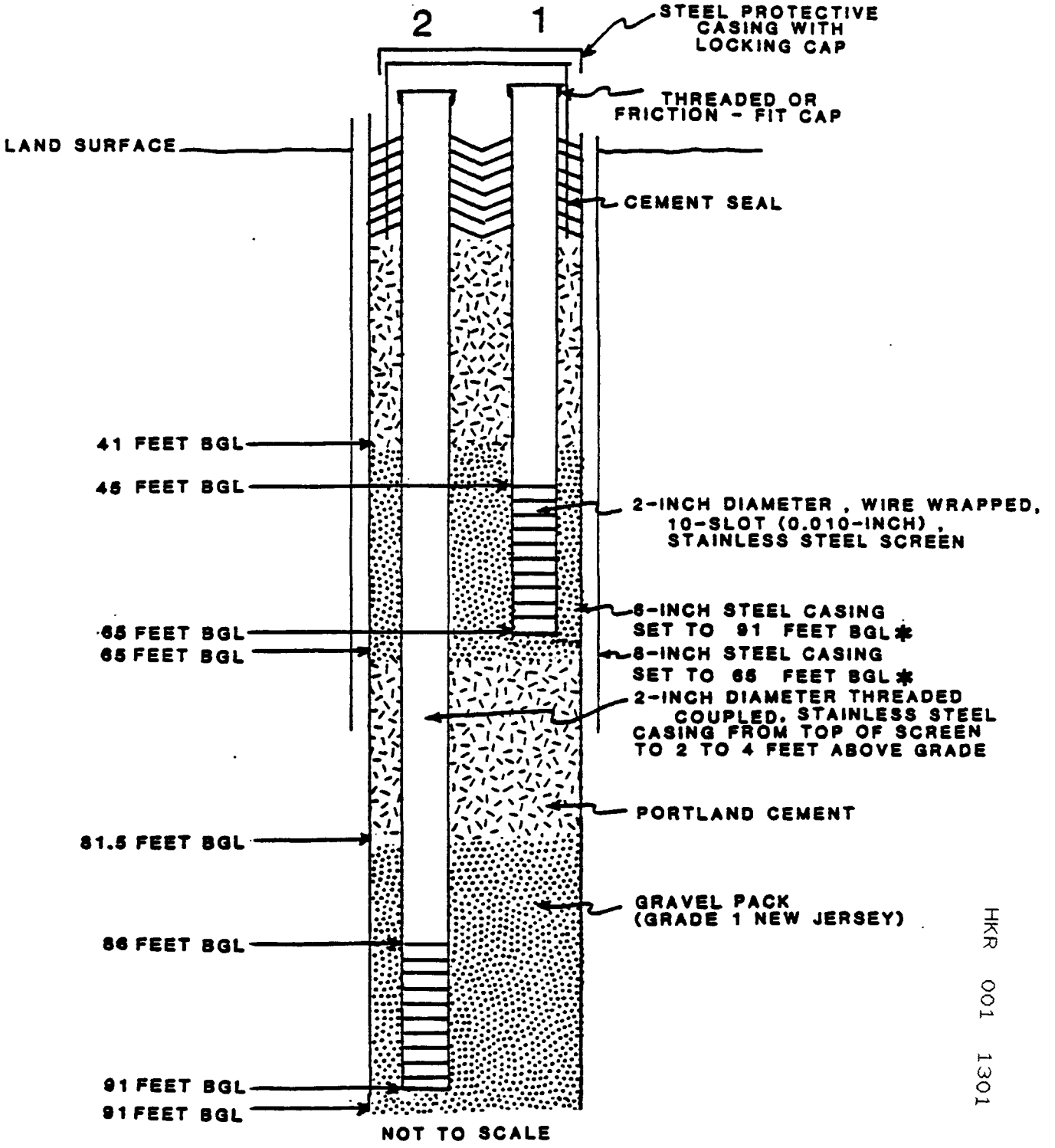
DEPTH IN FEET FROM	TO	DESCRIPTION
Grade	2	½ foot topsoil. ½-inch layer latex. Sand, silt, stones and gravel, tan. (Above material from shoveled hole).
2	5	Sand, fine to coarse, tan; stones, gravel, and silt; some gray silty clay soil. (Bailer sample).
5	7	Sand, fine to coarse, tan, stones, gravel and silt; no odor; grades from tan to redder tan. (Split spoon).
5	10	Stones; gravel, fine to coarse, tan sand and tan silt. (Bailer sample).
10	12	Gravel, and fine to coarse, tan sand; trace silt; trace gray clay at tip of both spoons. (Split spoon).
10	15	Gravel, stones, and tan sand; trace silt. (Bailer sample).
15	17	Sand, fine to coarse, tan; gravel, and stones; trace silt. (Split spoon).
17	20	Gravel, stones, and fine to coarse, tan sand; no odor. (Bailer sample).
20	22	Sand, fine to medium, some coarse tan, gravel, and stones; trace silt; no odor. (Split spoon).

DEPTH IN FEET FROM	TO	DESCRIPTION
22	25	Gravel: fine to coarse, tan sand, and stones (iron oxide stains). (Bailer sample).
25	27	Gravel, sand, and stones. (Split spoon).
27	30	Gravel, stones, and fine to coarse sand; trace silt; layer of silty clay with sand and stones; 3 to 4-inch concretions of iron oxide and staining on quartz grains. (Bailer sample).
30	32	Sand, fine to coarse; trace gravel. (Split spoon).
32	35	Gravel; fine to very coarse tan sand, and stones; some iron oxide concretions, trace silt and mica; faint odor. (Bailer sample).
35	37	Top 7 inches: Gravel, and fine to coarse sand, with iron oxide concretions.
		Bottom 5 inches: Sand, fine to medium, tan with trace layer of red and white clay. (Split spoon).
35	37	Gravel, and fine to medium, tan sand, with trace layer of red and white clay, iron oxide concretions. (Bailer sample).
38	40	Sand, fine to coarse; trace gravel and pink clay. (Bailer sample).
40	42	Top 10 inches: Sand, fine to medium, tan; trace silt.
		Bottom 5 inches: Sand, fine to medium; trace silt and red clay; no odor. (Split spoon).
42	45	Sand, fine to medium; some red and white clayey sand, trace of silt and gravel; no odor. (Bailer sample).
45	47	Top 5 inches: Sand, fine to medium, some coarse; trace red silt.
		Bottom 5 inches: Sand, fine to medium, some coarse; trace of red silt and red clay in matrix. (Split spoon).

DEPTH IN FEET FROM	TO	DESCRIPTION
45	50	Sand, fine to medium, multicolored, and red, white and yellow clay, sandy clay and clayey sand. (Bailer sample).
50	52	Sand, fine to medium, tan, and red and white clayey sand, fine to medium, 1-inch streaks white sandy clay and clay; no odor. (Split spoon).
52	54	Sand, fine to medium, tan with gray, red and yellow sandy clay, clayey sand and solid clay streaks. (Bailer sample).
54	55	Sand, fine to medium, tan. (Bailer sample).
55	57	Sand, fine to medium, tan. (Split spoon).
57	60	Sand, fine to medium, tan; trace red clay. (Bailer sample).
60	62	Sand, fine to coarse, tan; some red clay. (Bailer sample).
62	64	Sand, fine to medium, tan; some gray clayey sand. (Bailer sample).
64	65	Sandy clay, light gray; some iron oxide and tan sand. (Bailer sample).
65	67	Sand, very fine to fine, light gray to buff white, and silt; trace gray clay. (Bailer sample).
67	73	Silt, and very fine, light gray to gray sand; trace yellow and gray clay. (Bailer sample).
73	77	Silt, yellow; very fine, gray sand, and gray and yellow clay. (Bailer sample).
77	80	Silty clay, gray, some yellow and tan. (Bailer sample).
80	85	Silty clay, gray, some yellow and tan. (Bailer sample).
85	87	Sand, very fine to medium, red to tan, and silt. (Split spoon).
85	90	Sand, very fine to medium, red to tan and silt. (Bailer sample).
90	95	Sand, very fine to coarse, tan, and red and gray clay. (Bailer sample).
95	100	Silty clay, reddish-brown; some very fine to medium sand.
	100	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE D



*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1301

LEGGETTE, BRASHEARS & GRAHAM, INC.

GEOPHYSICAL WELL LOG

LEGGETTE, BRASHEARS & GRAHAM
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

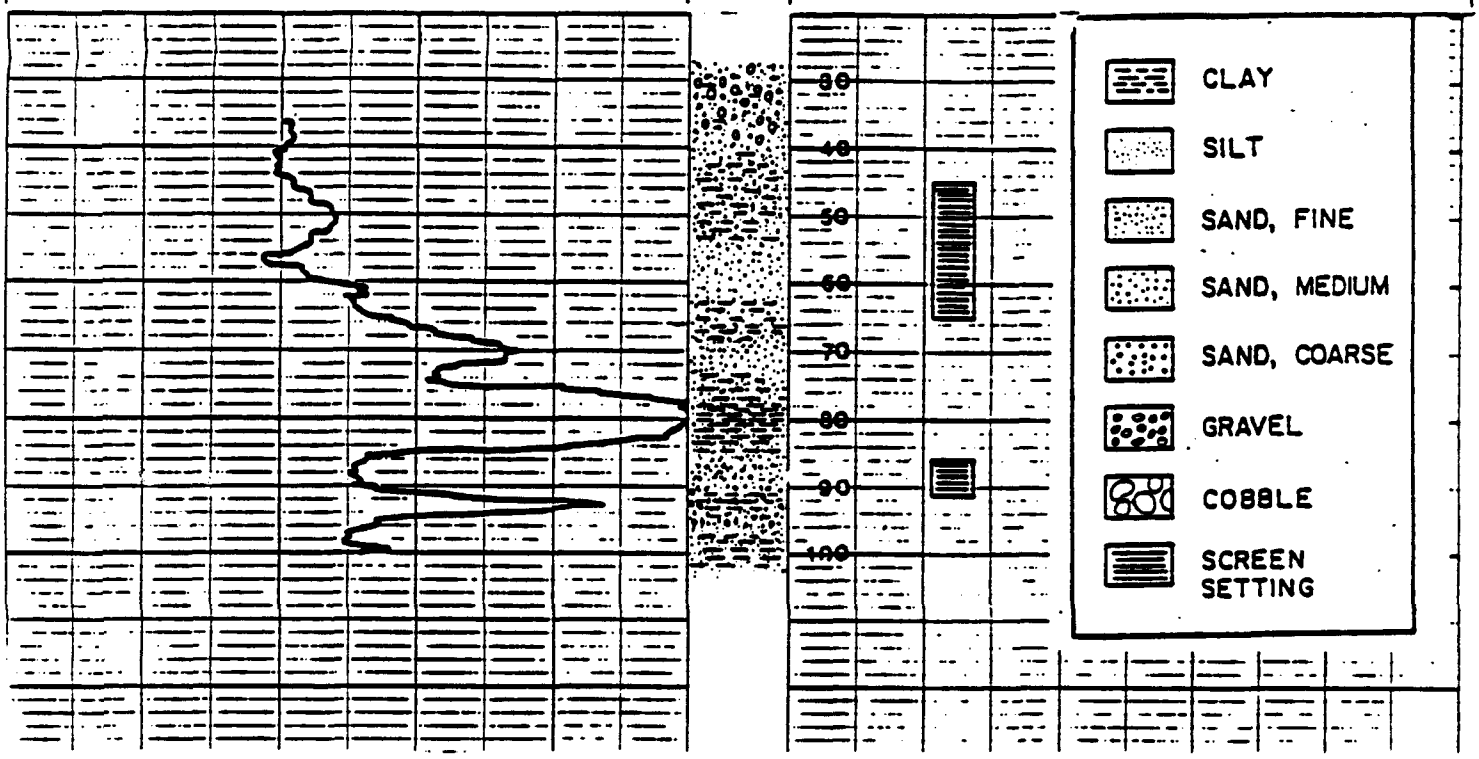
OWNER Whiteman, Osterman & Hanna
LOCATION Former OCC Ruco Division Plantsite
Hicksville, New York
WELL NO. D
DRILLING METHOD Cable Tool
DEPTH DRILLED 91 feet
DEPTH LOGGED 91 feet
DEPTH SCALE 20 feet/inch
LOGGED BY John Naso, Jr.

DATE August 16, 1983
DRILLER R. H. Lauman & Associates, Inc.
REFERENCE POINT Grade
ELEVATION 130.1 feet above mean sea level
CASING 67 feet of 8-inch; 91 feet of 6-inch
HOLE DIAMETER 6-inch to 91 feet
REMARKS Static water level is about 55 feet below grade.

GAMMA RAY

SCALE: 7.5 counts/second/inch
TIME CONSTANT: 5 seconds
LOGGING RATE: 25 feet/minute
Increasing Radiation

Geol-ogist's Log



HKR 001 1302

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Site E

DATE 06/23/83 PAGE 1 OF 4 PAGES

LOCATION: Between sump No. 3 and storage shed

DATE COMPLETED: August 10, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable Tool

SAMPLING METHOD: Split Spoon & Bailer

SAMPLES EXAMINED BY: R. Lamonica and J. Naso

REFERENCE POINT: Grade 129.3 ft. above MSL

ELEVATION OF R.P.: E-1 131.96 ft. MSL
E-2 131.68 ft. MSL

WELL CONSTRUCTION
SCREEN TYPE: wire-wrapped stainless steel
DIAM.: 2-inch SLOT NO.: 10
SETTING: 46 - 66 ft.; 75 - 90 ft.
GRAVEL PACK SIZE: Grade 1 New Jersey*
CASING: 2-inch stainless steel
DEVELOPMENT: E-1 14 hrs. bailer, 8 hrs. bailer
E-2 6 hrs. airlift

PUMPING TEST: None
DATE:
DURATION:
STATIC WATER LEVEL: E-1 77.40 ft. MSL, E-2 77.31 ft. MSL
PUMPING WATER LEVEL:
YIELD: E-1 1 gpm, E-2 2 gpm

REMARKS: Cement - 90-103 feet, 71-65.75 feet, 42.8-grade.
Sand pack - Deep zone: 90 to 71 feet. Shallow zone: 65.75 to 42.8 feet.
Stick-up - Shallow: 2.7 feet. Deep: 2.4 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
.6	.6	Sand, very coarse to medium with some fine, tan; strong paint-like odor.
.6	2.0	Sand, medium to fine with some very fine, dark brown; very strong paint-like odor. (Above material from shoveled hole and split spoon (1.6 - 1.5)).
2.0	4.0	Sand, medium to coarse, light tan, and medium to coarse with some fine gravel. (Bailer sample).
4.0	5.0	Gravel, medium to coarse, and medium to very coarse, with some fine; tan and gray sand; silt; rubber-like material, very strong odor. (Bailer sample).
5.0	6.5	Sand, coarse to very coarse, with some medium and fine, light brown to tan; gravel, and silt. (Split spoon).
6.5	10.0	Gravel, well-rounded; stones; and fine to very coarse, tan-brown sand. (Bailer sample).
10.0	11.5	Sand, fine to medium, some coarse, tan-brown; gravel and small stones. (Split spoon).
11.5	15.0	Sand, fine to very coarse tan-brown; well-rounded, gravel and stones. (Bailer sample).
15.0	17.0	Sand, fine to coarse tan-brown; well-rounded, gravel and stones, trace of white clay and silt. (Split spoon).

HKR 001 1303

DEPTH IN FEET FROM	TO	DESCRIPTION
17.0	20.0	Stones, (1-inch to 3-inch), rounded gravel and fine to very coarse, tan, sand. (Bailer sample).
20.0	22.0	Gravel; well-rounded, quartzitic stones and fine to very coarse, brown sand. (Split spoon).
22.0	25.0	Gravel; well-rounded, quartzitic stones and fine to very coarse, brown sand. (Bailer sample).
25.0	27.0	Gravel; well-rounded, quartzitic stones and fine to very coarse, brown sand. (Split spoon).
27.0	30.0	Gravel, fine to very coarse; 1-inch rounded quartzitic pebbles and fine to very coarse, tan sand. Discharge = Orange-rust. (Bailer sample).
30.0	32.0	Sand, fine to very coarse, light tan to tan; trace white, red and gray clay and fine gravel. (Split spoon).
32.0	35.0	Sand, fine to very coarse, tan and fine to very coarse, subangular quartz gravel; rust. (Bailer sample).
35.0	37.0	Sand, very fine to coarse, and fine to medium, brown; gravel; changing to whitish-tan gravel at 36.7 feet; trace white and gray clay in tip sample. (Split spoon).
37.0	40.0	Sand, fine to very coarse, tan; brown to orange silt and fine, sub-angular quartz gravel; (Bailer sample). Discharge = orange-red.
40.0	42.0	Sand, fine to coarse, tan to light gray; trace gray clay. (Split spoon).
42.0	44.0	Sand, fine to very coarse, tan and light gray, and silt. (Bailer sample)
44.0	45.0	Sand, fine to medium, gray, and gray and yellow clay (dries to tan). (Bailer sample).

DEPTH IN FEET FROM	TO	DESCRIPTION
45.0	47.0	Sand, fine to medium, gray, angular to subangular; trace gray clay.
		(Split spoon).
47.0	48.0	Sand, fine to coarse, angular to subangular, gray; some gray and white
		clay. (Bailer sample).
48.0	50.0	Sand, fine to coarse, gray; some gray clay; oily sheen, very strong
		odor of oil and chemicals.
50.0	52.0	Sand, fine to medium, some coarse, gray; 1-inch lens gray clay; sheen
		and odor. (Split spoon). (Moved off-site July 1, 1983 - returned
		July 20, 1983).
50.5	52.5	Sand, fine to medium, gray and white banded; some clay and silt; top
		1-inch oily with strong odor; sample color getting lighter with
		depth; odor throughout; dry. (Split spoon).
52.5	54.0	Sand, fine to medium, gray; some tan, plastic clay. (Bailer
		sample).
54.0	56.0	Sand, fine to medium, gray; some clay and silt. (Split spoon).
56.0	59.5	Sand, fine to medium, light gray, quartzitic; trace biotite mica; oily
		sheen and strong odor, which appears to be getting weaker with
		depth; occasional clay and silt lumps. (Bailer sample).
59.5	61.5	Sand, fine to medium, gray; trace silt and clay. (Split spoon).
61.5	64.0	Sand, medium to very coarse, some fine, gray; strong odor; no oily sheen
64.0	65.0	Sand, medium to very coarse, some fine, gray; few lumps gray clay and
		sandy clay. (Bailer sample).
65.0	70.0	Sand, fine to very coarse, gray; silt; fine gravel; slight odor.
		(Bailer sample).

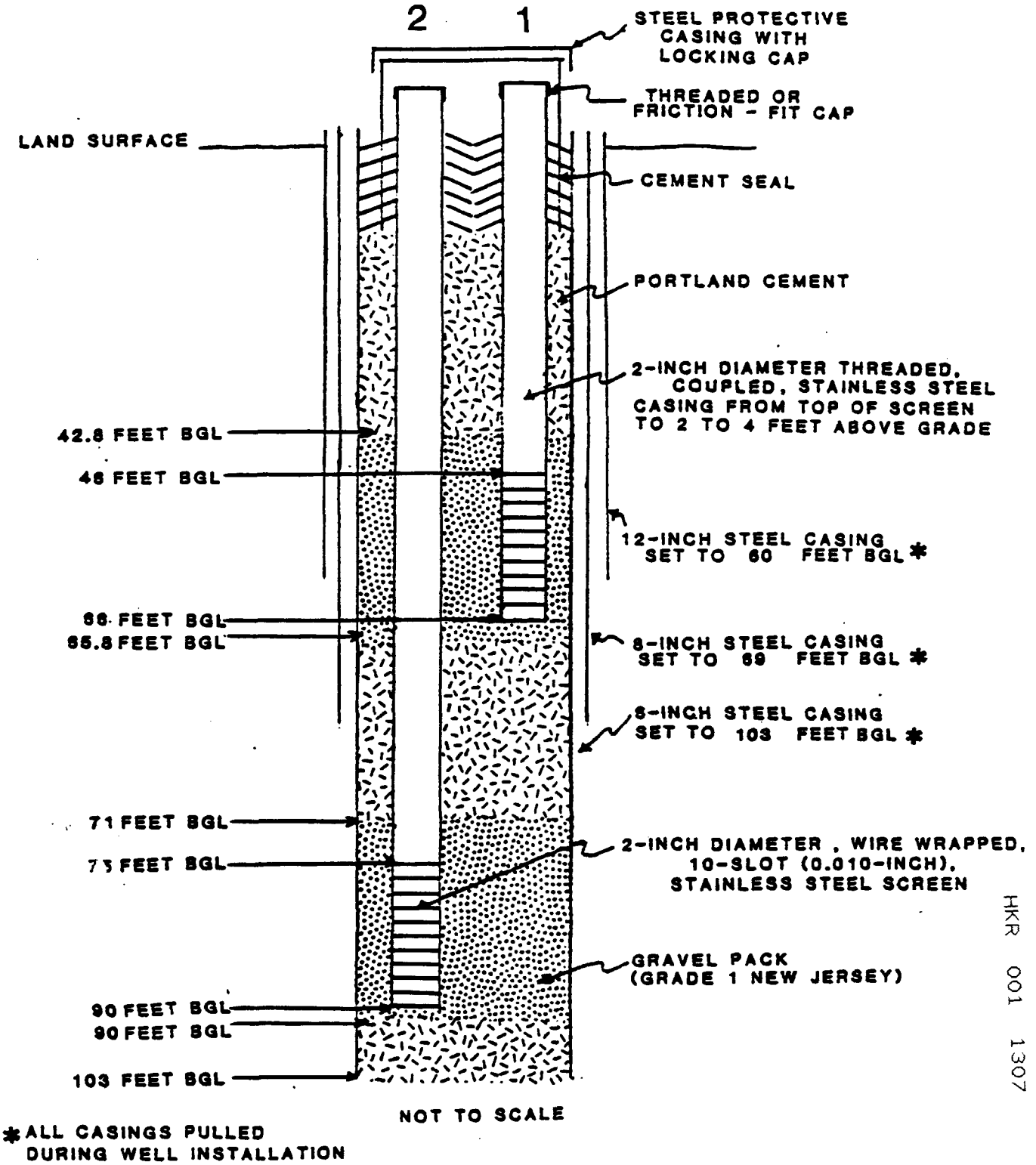
OWNER Whiteman, Osterman & Hanna, Former OCC Ruco Division, Hicksville, New Yor

WELL NO. Site E PAGE 4 OF 4 PAGES

DEPTH IN FEET FROM	TO	DESCRIPTION
70.0	72.0	Sand, very fine to coarse, gray, and silt; odor. (Bailer sample).
72.0	74.0	Sand, very fine, light gray, and silt. (Bailer sample).
74.0	80.0	Sand, very fine to fine, with some medium, gray to light gray, and silt; trace gray clay; odor. (Bailer sample).
80.0	81.7	Sand, very fine to fine, gray; silt; clay; odor. (Bailer sample).
81.7	83.7	Sand, very fine to fine, gray; silt; clay; odor. (Split spoon).
83.7	103	Sand, very fine to fine, gray; clay; silt; slight odor. (Bailer sample).
	103.3	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE E



*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1307

LEGGETTE, BRASHEARS & GRAHAM, INC.

GEOPHYSICAL WELL LOG

LEGGETTE, BRASHEARS & GRAHAM
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
LOCATION Former OCC Ruco Division Plantsite
Hicksville, New York
WELL NO. E
DRILLING METHOD Cable Tool
DEPTH DRILLED 103.3 feet
DEPTH LOGGED 94 feet
DEPTH SCALE 20 feet/inch
LOGGED BY John Naso

DATE August 10, 1983
DRILLER R. H. Lauman & Associates, Inc.
REFERENCE POINT Grade
ELEVATION 129.3 feet above mean sea level
CASING 60 feet of 12-inch; 70 feet of 8-inch; 103.3 feet of 6-inch.
HOLE DIAMETER 6-inch to 103.3 feet

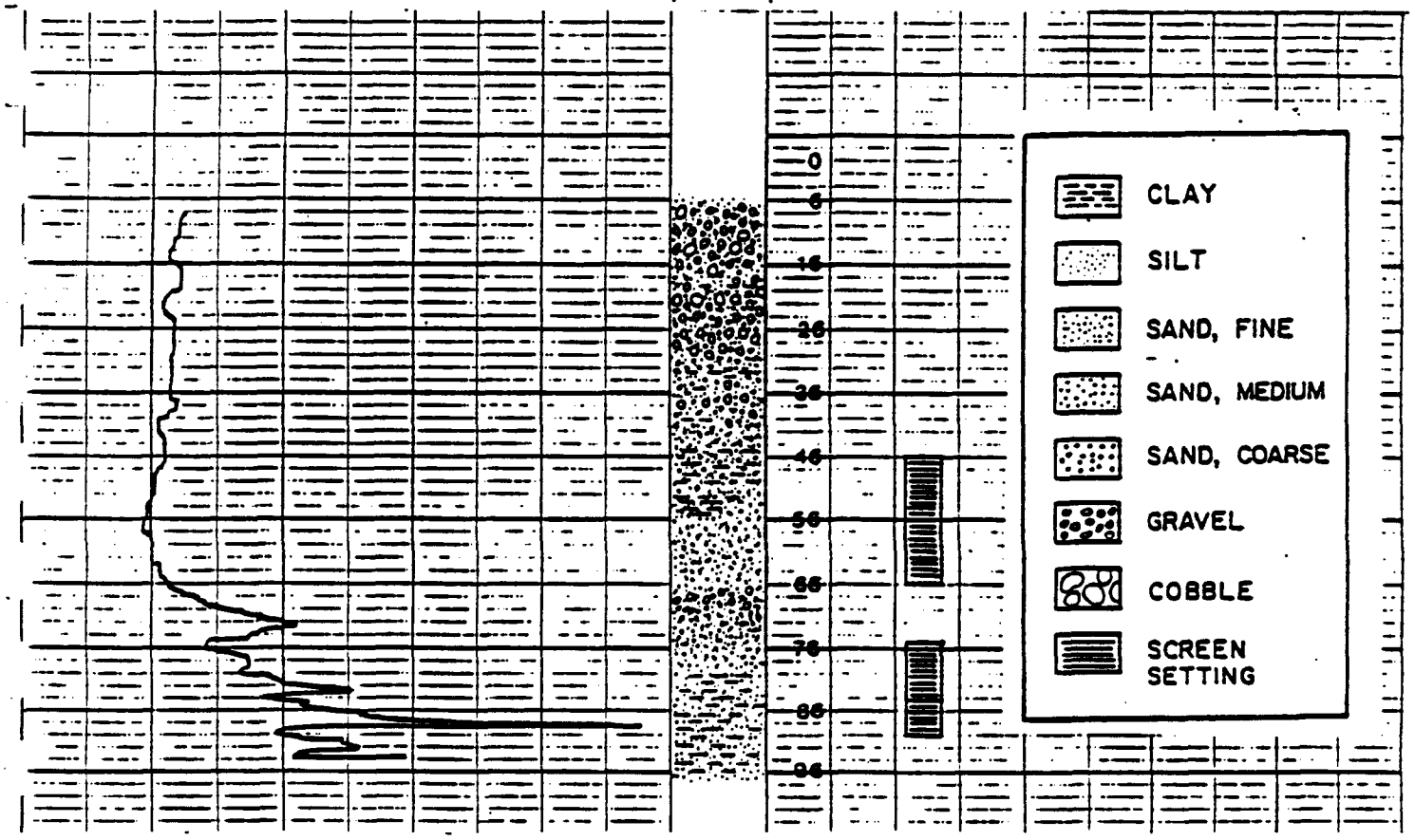
REMARKS Static water level about 54.5 feet below grade.

GAMMA RAY

SCALE: 7.5 counts/second/inch
TIME CONSTANT: 5 seconds
LOGGING RATE: 25 feet per minute

Increasing Radiation →

Geol-ogist's Log



HKR 001 1308

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
Former OCC Ruco Division
Hicksville, New York

WELL NO. Site F

DATE 9/27/83 PAGE 1 OF 3 PAGES

LOCATION: South end of plant near sump No. 2 & railroad tracks.

DATE COMPLETED: September 27, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable Tool

SAMPLING METHOD: Split Spoon and Bailer

SAMPLES EXAMINED BY: R. Lamonica & C. Fricke

REFERENCE POINT: Grade 129.8 ft. above MSL

ELEVATION OF R.P.: F-1 131.79 ft. MSL
F-2 131.56 ft. MSL

WELL CONSTRUCTION
SCREEN TYPE: wire-wrapped stainless steel

DIAM.: 2-inch SLOT NO.: 10

SETTING: F-1 47.5-67.5 ft. bgl
F-2 90-110 ft. bgl

GRAVEL PACK SIZE: Grade 1 New Jersey

CASING: 2-inch stainless steel

DEVELOPMENT: F-1 14 hrs. bailer
1 hr. airlift
F-2 5 hrs. airlift

PUMPING TEST: None

DATE:

DURATION:

STATIC WATER LEVEL: F-1 76.99 ft. MSL
F-2 76.88 ft. MSL

PUMPING WATER LEVEL:

YIELD: F-1 1 gpm
F-2 5 gpm

REMARKS: Sand pack: 80.5-111 ft.; 71-35 ft. bgl
Grout: 80.5-71 ft. bgl
35 ft.-grade.

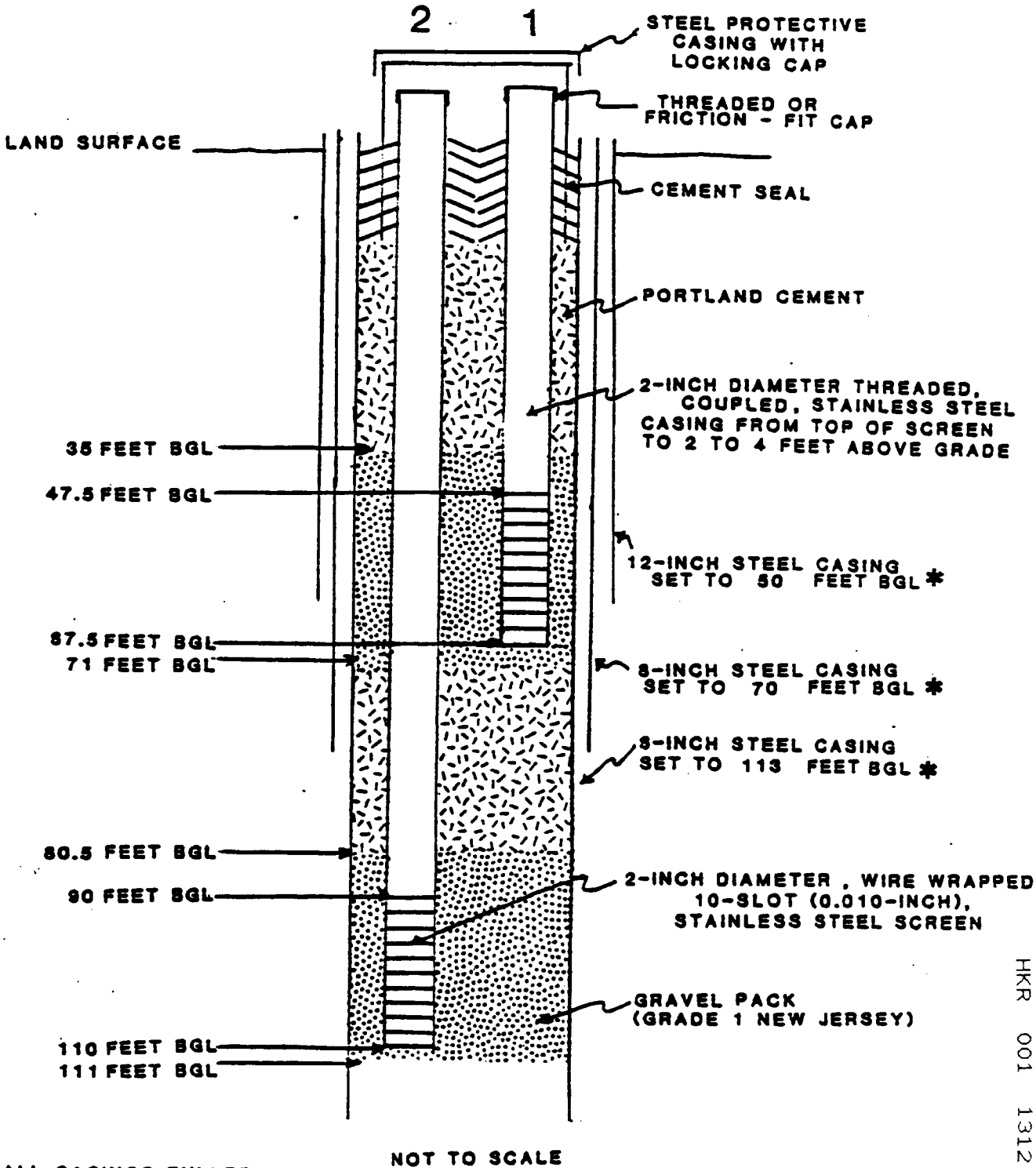
DEPTH IN FEET FROM	TO	DESCRIPTION
Grade	0.5	Fill; stones, sand and silt.
0.5	1.5	Sand, silt and gravel; some stains.
1.5	5.0	Stones, gravel, fine to coarse sand and brown silt; no odor. (Bailer sample).
5	7	Sand, fine to coarse; brown gravel and silt; trace clay. (Split spoon).
5	10	Gravel; stones; fine to coarse, brown sand and brown silt; no odor. (Bailer sample).
10	12	Gravel; fine to coarse sand, and brown to tan silt; trace white clay in tip of spoon. (Split spoon).
15	17	Sand, fine to coarse; gravel and brown silt. (Split spoon).
15	20	Sand, fine to coarse; tan; gravel and stones. (Bailer sample).
20	22	Top 6 inches: Sand, fine to coarse, tan and gravel.
		Middle 6 inches: Sand, fine to coarse; brown silt and gravel.
		Bottom 6 inches: Sand, fine to medium; some tan to gray silt. (Split spoon).
20	25	Gravel, fine to very fine, some medium; multi-colored and very coarse to coarse, some medium sand; trace brown silt and iron stain. Discharge = muddy brown. (Bailer sample).

DEPTH IN FEET FROM	TO	DESCRIPTION
25	30	Sand, medium to fine, some coarse, angular, tan; and very fine, some
		fine, multicolored, subangular gravel. (Bailer sample).
30	35	Sand, medium to coarse, some fine, tan; very fine to fine multicolored
		subangular gravel and iron oxide nodules; some iron oxide
		concretions and brown silt; trace subangular multicolored cobbles.
		Discharge = Orange-brown. (Bailer sample).
35	40	Sand, medium to coarse, some fine to very fine, tan to brown and multi-
		colored fine gravel; some gray sandy clay; slight odor. (Bailer
		sample).
40	42	Clay, sandy, gray interbedded with fine gray clayey sand and thin (½-inch
		band of iron oxide; slight odor. (Split spoon).
40	45	Clay, sandy, gray and gray silt; slight odor. (Bailer sample).
45	48	Silt; fine, with some medium and coarse sand; gray clay and iron oxide
		stains; slight odor. (Bailer sample).
48	50	Silt, olive with fine sand and trace clay interbedded with plastic gray
		clay and micaceous gray sandy clay; strong odor. (Bailer sample).
	51	Sand, fine to very coarse, silt and plastic gray clay; no odor.
		(Bailer sample).
51.5	53.5	Sand, fine, silty, brown-gray, and sandy, brown-gray silt; no odor.
		(Split spoon).
50	55	Sand, fine to very coarse and tan silt; layers of fine sand and olive-
		brown silt; trace gravel; some odor. (Bailer sample).
55	60	Sand, fine and tan silt; slight "sweet" odor. (Bailer sample).
55	58	Sand, fine to medium and tan silt; no odor (Bailer sample).
58	60	Sand, fine to medium; trace white-gray silt; no odor. (Bailer sample).

DEPTH IN FEET FROM	TO	DESCRIPTION
60	62	Sand, fine to medium; trace white-gray silt, slight odor. (Bailer sample
62	64	Sand, fine to medium; white gray; trace silt; very strong odor; no oil.
		Discharge = Dark gray-brown. (Bailer sample).
64	65	Sand, fine to coarse; trace gray silt; strong odor, no oil; (Bailer
		sample).
	65	Sand, fine to coarse, olive silt and iron oxide concretions; strong odor.
		(Bailer sample).
65	67	Sand, fine to very coarse; fine gravel and olive silt; some gray clay
		and sandy gray clay; strong odor. (Bailer sample).
	68	Clay, sandy, gray and fine olive sand; strong odor (Bailer sample).
68	70	Clay, sandy and silty, gray; strong odor. (Bailer sample).
70	82	Sand, clayey and silty, fine, gray, some olive; strong odor.
		(Bailer sample).
82	84	Sand, silty, fine, olive and gray, runny; strong odor. (Bailer sample).
84	90	Sand, silty, fine, olive and gray, runny; strong odor. (Bailer sample).
90	95	Sand, very fine, subangular and gray silt; few biotite flakes; chemical
		odor. (Bailer sample).
95	100	Sand, very fine to fine subangular and gray silt; some muscovite, little
		tourmaline(?) (black particles); odor. (Bailer sample).
100	110	Sand, very fine to fine, subangular and gray silt; some muscovite and
		feldspar; little tourmaline(?) (black particles); strong odor in clay
		lumps. (Bailer sample).
110	113	Sand, medium. (Bailer sample).
	113	Clay, gray and tan, layers on bottom of bailer.
	113	Bottom of borehole.

WHITEMAN, OSTERMAN & HANNA
FORMER OCC PLANTSITE
HICKSVILLE, NEW YORK

CONSTRUCTION OF MONITOR WELLS AT SITE F



NOT TO SCALE

*ALL CASINGS PULLED DURING WELL INSTALLATION

HKR 001 1312

LEGGETTE, BRASHEARS & GRAHAM, INC.

GEOPHYSICAL WELL LOG

LEGGETTE, BRASHEARS & GRAHAM
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Whiteman, Osterman & Hanna
LOCATION Former OCC Ruco Division Plantsite
Hicksville, New York
WELL NO. F
DRILLING METHOD Cable Tool
DEPTH DRILLED 114 feet
DEPTH LOGGED 112 feet
DEPTH SCALE 20 feet/inch
LOGGED BY Cintra Fricke

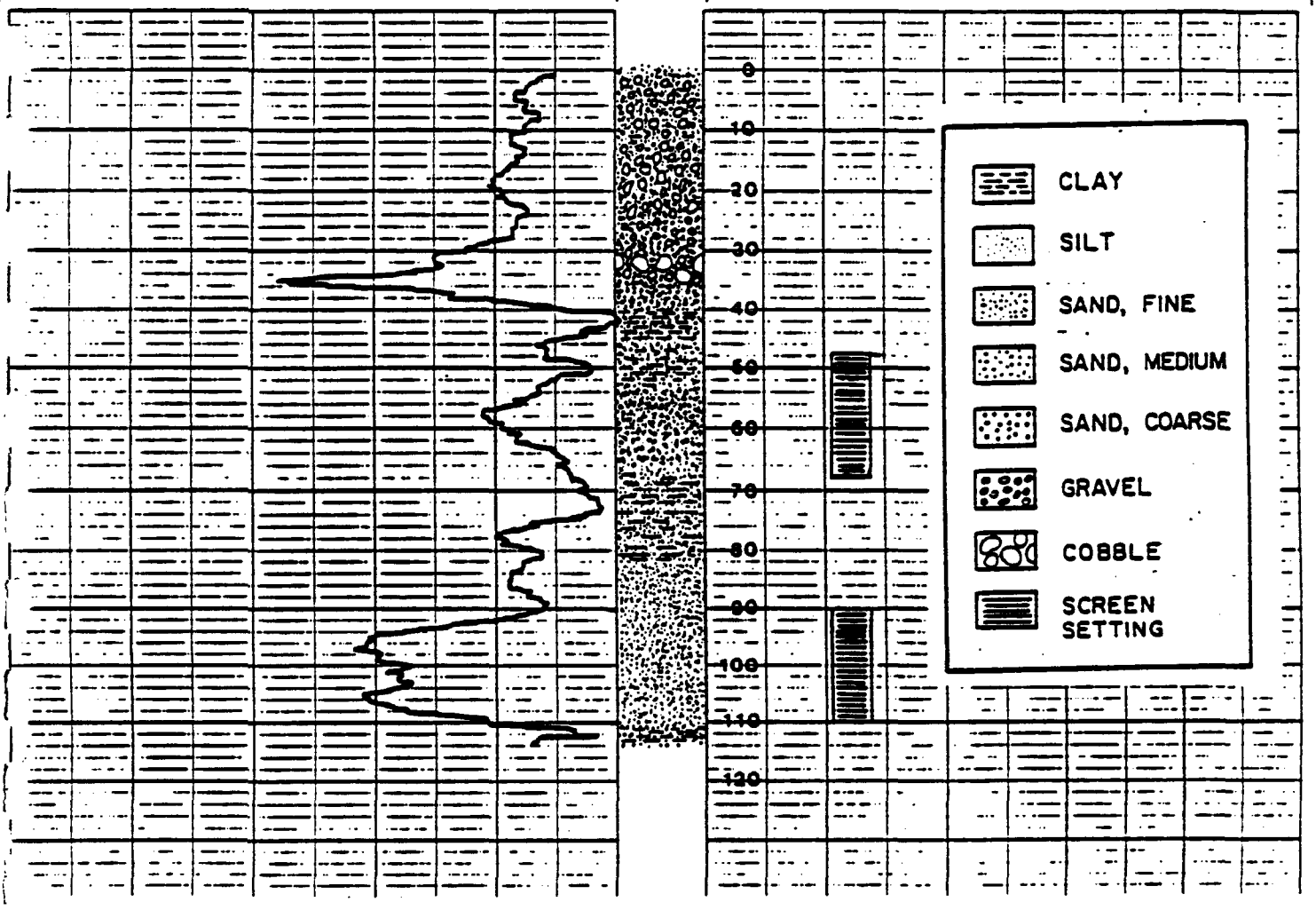
DATE October 5, 1983
DRILLER R. H. Lauman & Associates, Inc.
REFERENCE POINT Land Surface
ELEVATION 129.8 feet above mean sea level
CASING 12-inch to 50 feet; 8-inch to 70 feet; 6-inch to 114 feet.
HOLE DIAMETER 6-inch (inner casing)
REMARKS Static water level is about 54 feet below grade.

GAMMA RAY

SCALE: 10 counts/second/inch
TIME CONSTANT: 3 seconds
LOGGING RATE: 21 feet/minute

Increasing Radiation

Geol-ogist's Log



WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER: Former OCC Ruco Division
Hicksville, New York

WELL NO. Test Boring F

DATE 1/16/84 PAGE 1 OF 2 PAGES

LOCATION: Bottom of sump no. 2 southern most corner of plant.

DATE COMPLETED: July 19, 1983

DRILLING COMPANY: R. H. Lauman & Associates, Inc.

DRILLING METHOD: Cable tool - 6 inch

SAMPLING METHOD: Split Spoon and Bailer.

SAMPLES EXAMINED BY: R. Lamonica & J. Naso

REFERENCE POINT: Grade: (sump bottom)

ELEVATION OF R.P.: 113.8 ft. above MSL

WELL CONSTRUCTION
SCREEN TYPE: None
DIAM. ____ SLOT NO. ____
SETTING
GRAVEL PACK SIZE
CASING
DEVELOPMENT

PUMPING TEST
DATE
DURATION
STATIC WATER LEVEL: Approx. 39 ft. below grade.
PUMPING WATER LEVEL
YIELD

REMARKS: 6 inch casing removed and hole grouted to surface.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
		Top ½-inch of sump bottom is a dry gray filter cake; ½-inch to 1-inch is brown-stained sand; 1-inch to 2-inches is clean sand and gravel.
1	2.5	Sand, fine to coarse; gravel and silt; brown; (Top 6 inches stained dark, bottom has clean appearance); strong odor. (Split spoon).
0	11.5	Sand, fine to very coarse; gravel; stones (to 3-inches); brown; slight odor. (Bailer sample).
11.5	13.3	Sand, fine to coarse; gravel; trace of silt; brown; some black staining; mild odor. (Split spoon).
13.5	15	Sand, fine to coarse; gravel; brown; very slight odor. (Bailer sample).
15	17	Sand, fine to coarse; with some brown silt and a trace of gravel; no odor. (Split spoon).
17	20	Sand, very fine to coarse; some gravel; discharge is dark gray, getting darker with depth; black stones causing color.
20	22	Sand, fine to medium, and silt, with streaks of gray clay; some odor. (Split spoon).
22	25	Sand, very fine, gray, with gray silt and clay. (Bailer sample).

HKR 001 1314

OWNER Whiteman, Osterman & Hanna, Former OCC Ruco Division, Hicksville, New Yo

WELL NO. Test Boring F PAGE 2 OF 2 PAGES

DEPTH IN FEET FROM	TO	DESCRIPTION
25.8	27.8	Sand, very fine, gray, with gray and yellow silt and clay. (Split spoor
28	30	Sand, very fine, gray, with gray silt and clay. (Bailer sample).
30	32	Sand, very fine to medium, light gray to white; trace of silt. (Split
		spoon).
32	35	Sand, very fine to fine, with medium sand, tan to white; silt and clay,
		gray and white. (Bailer sample).
35	37	Sand, very fine to medium, gray; trace of gray silt and clay; slight
		odor. (Split spoon).
37	40	Sand, very fine to medium gray; silt; clay, gray to dark gray. (Bailer
		sample).
40	45	Sand, very fine to medium, gray; water discharge was foamy and had
		slight odor.

APPENDIX 13

Records of Water Withdrawals From Ruco Wells

Hooker RUCO DIVISION

NEW SOUTH ROAD, HICKSVILLE, NEW YORK 11802
PHONE (516) 931-8100 TWX 510 221-1871

M/A 1034 AH:hmc

January 18, 1972

Long Island Well Application No. W-1442
Hooker Chemical Corp./Ruco Division

New York State Department of Environmental Conservation
Region 1 Water Supply Management Unit
373 Maple Avenue
Westbury, New York 11590

Attention: Mr. Walter G. Waterman
Chief, Water Supply Management Unit

Gentlemen:

Please be advised that Well Application No. W-1442has not been pumped since October 1970. We have no plans of using this well in the future except in an extreme emergency, such as prolonged town water supply failure.

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1318

New York State Department of Environmental Conservation

Henry L. [illegible]
Commissioner

Region 1 Water Supply Management Unit
373 Maple Avenue
Westbury, New York 11590

January 17, 1972

Long Island Well Application No. W-1442
Hooker Chemical Co.

Hooker Chemical Co.
New South Road
Hicksville, New York 11802

Attention Mr. A. Heuer, Maintenance Supervisor

Gentlemen:

Our present records indicate that you have failed to report well water pumpage for the months of April through December, 1971.

Please be advised that pumpage is to be reported each month to this Department.

You are requested to forward the delinquent reports to this office immediately and monthly thereafter.

Very truly yours

WALTER C. WATERMAN
Chief, Water Supply Management Unit

ASC:sm

HKR 001 1319

Hooker

April 19, 1971

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Wells No. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of March, 1971, was:

Well No. N3450 - Not Running
Well No. N5368 - Not Running
Well No. N5390 - Not Running

Very truly yours,

A. Meyer
Maintenance Supervisor

HKR 001 1320

J. Hunker

March 12, 1971

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Wells No. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of February, 1971, was:

Well No. N3450	-	Not Running
Well No. N5368	-	Not Running
Well No. N5390	-	Not Running

Very truly yours,

A. Hauer,
Maintenance Supervisor

HKR 001 1321

Hooker

October 13, 1970

State of New York
Water Resources Commission
5703 Maple Avenue,
Westbury, N.Y.

Re: Well No. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of September 1970, was:

Well No. N3450	Not Running
Well No. N5368	Not Running
Well No. N5390	Not Running

Very truly yours,

A. Hauer
Maintenance Supervisor

HKR 001 1322

Hooker

September 3, 1970

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of August, 1970:

Well No. N-3540	Not Running
Well No. N-5368	Present Meter Reading - 359,725,700 Previous Meter Reading- 359,506,800 213,900
Well No. N-5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1323

August 6, 1970

State of New York
Water Resources Commission
3705 Maple Avenue,
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the months of June and July, 1970, was:

Well No. N3540	Not Running
Well No. N5368	Present Meter Reading - 359,506,800 Previous Meter Reading - 359,101,300 405,000
Well No. N5390	Not Running

Very truly yours,

A. Hauer
Maintenance Supervisor

HKR 001 1324

May 8, 1970

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of April, 1970 was:

Well No. N3540	Not Running
Well No. N5368	Present Meter Reading - 353,704,700 Previous Meter Reading - 353,295,100 409,600
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1325

June 9, 1970

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of May 1970 was:

Well No. N3540	Not Running	
Well No. N5368	Present Meter Reading - 359,101,300	
	Previous Meter Reading - 358,704,700	
		397,100
Well No. N5390	Not Running	

Very truly yours,

A. Hauer
Maintenance Supervisor

HKR 001 1326

Hooker

April 9, 1970

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of March, 1970 was:

Well No. N3540	Not Running	
Well No. N5368	Present Meter Reading -	358,295,100
	Previous Meter Reading -	357,766,300
		528,800
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1327

Hooker RUCO DIVISION

NEW SOUTH ROAD, HICKSVILLE, NEW YORK 11802
PHONE (516) 931-8100 TWX 510 221-1871

March 6, 1970

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the Month of February, 1970 was:

Well No. N3540	Not Running	
Well No. N5368	Present Meter Reading -	357,766,300
	Previous Meter Reading -	357,358,000
		408,300
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1328

February 5, 1970

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of January, 1970 was:

Well No. N3540	Not Running
Well No.N5368	Present Meter Reading - 357,353,000 Previous Meter Reading - 356,761,000 597,000
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1329

January 5, 1970

State of New York
Water Resources Commission
3703 Maple Ave.
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of December, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 356,761,000 Previous Meter Reading - 356,155,900 605,100
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1330

Hooker

December 2, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of November, 1969 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	356,155,900
	Previous Meter Reading -	355,294,900
		861,000
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/eb

Hooker

November 7, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of October, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Meter being repaired.
Well No. N5390	Not Running

Very truly yours,

A. Hauer
Maintenance Supervisor

AH/sb

Hooker
RUCO

October 8, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of September, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 355,294,900 Previous Meter Reading - 354,440,500 854,400
Well No. N5390	Not Running

Very truly yours,

E. Heuer
Maintenance Supervisor

AH/sb

HKR 001 1333

Hooker

September 3, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of August, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 354,440,500 Previous Meter Reading - 353,587,200 853,300
Well No. N5390	Not Running

Very truly yours,

A. Hauer
Maintenance Supervisor

eb

HKR 001 1334

Hooker

August 5, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the months of June and July 1969 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	353,587,200
	Previous Meter Reading -	352,314,200
		1,273,000
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/js

HKR 001 1335

June 5, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of May, 1969, was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	352,314,200
	Previous Meter Reading -	351,511,500
		802,700
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1336

Hooker

May 2, 1969

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of April, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 351,511,500 Previous Meter Reading - 350,791,000 720,500
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

ab

HKR 001 1337

Hooker

April 7, 1969

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of March, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 350,791,000 Previous Meter Reading - 349,801,900 989,100
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/eb

Hooker

March 5, 1969

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of February, 1969 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 349,801,900 Previous Meter Reading- 349,094,900 717,000
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/sb

HKR 001 1339

February 4, 1969

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of January, 1969 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	349,094,900
	Previous Meter Reading -	348,069,700
		925,200
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/sb

HKR 001 1340

Hooker

January 8, 1969

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.'s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of December, 1968 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 348,069,700 Previous Meter Reading - 347,012,400 1,057,300
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1341

Hooker

December 6, 1968

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of November, 1968 was:

Well No. N3450	Not running	
Well No. N5368	Present Meter Reading -	347,012,400
	Previous Meter Reading -	346,058,000
		954,400
Well No. N5390	Not running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1342

November 7, 1968

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of October, 1968 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	346,058,000
	Previous Meter Reading -	344,850,700
		1,207,300
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

Hooker

October 1, 1968

State of New York
Water Resources Commission
3705 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of September, 1968 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 344,850,700 Previous Meter Reading - 343,702,200 1,148,500
Well No. N5390	Not Running

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1344

Hooker

September 6, 1968

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of August, 1968 was

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	343,702,200
	Previous Meter Reading -	342,508,200
		1,194,000
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1345

August 9, 1968

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the months of June and July, 1968 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading -	342,508,200
	Previous Meter Reading -	339,956,400
		2,551,800
Well No. N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

HKR 001 1346

June 10, 1968

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of May, 1968 was:

Well No. N3450	-	Not Running	
Well No. N5368	-	Present Meter Reading	- 339,956,400
		Previous Meter Reading	- 338,829,600
			1,126,800
Well No. N5390	-	Not Running	

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AF/eb

May 10, 1968.

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of April, 1968 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 338,829,600 Previous Meter Reading - 337,884,700 844,900
Well No. N5390	Not Running

Very truly yours,

A. P. Heuer
Maintenance Supervisor

AP/eb

April 2, 1968.

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, New York.

Re: Wells No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of March, 1968 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading - 337,884,700 Previous Meter Reading - 337,060,200 824,500
Well No. N5390	Not Running

Very truly yours,

A. P. Heuer
Maintenance Supervisor

HKR 001 1349

March 7, 1968.

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of February, 1968 was:

Well No. N-3450	Not Running	
Well No. N-5368	Present Meter Reading -	337,060,200
	Previous Meter Reading -	336,263,900
		796,300
Well No. N-5390	Not Running	

Very truly yours

A. F. Heuer
Maintenance Supervisor

AF/eb

February 5, 1968

State of New York
Water Resources Commission
3703 Maple Avenue,
Westbury, N.Y.

Re: Well No.s N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of January, 1968 was:

Well No. N-3450	Not Running	
Well No. N5368	Present Meter Reading	336,263,900
	Previous Meter Reading	335,349,200
		914,700
Well No. N5390	Not Running	

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AF/eb

January 8, 1968

State of New York
Water Resources Commission
3703 Maple Avenue
Westbury, New York.

Re: Wells No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of December, 1967 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading	335,349,200
	Previous Meter Reading	334,463,100
		886,100
Well No. N5390	Not Running	

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AF/eb

December 4, 1967.

State of New York
Water Resources Commission
373 Maple Ave.,
Westbury, New York.

Re: Wells No's N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of November, 1967 was:

Well No. N3450	Not Running	
Well No. N5368	Present Meter Reading	334,463,100
	Previous Meter Reading	333,484,700
		978,400
Well No. N5390	No Running	

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AH/eb

November 6, 1967.

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York.

Re: Wells No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of October, 1967 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading: 333,484,700 Previous Meter Reading: 332,652,500 832,200
Well No. N5390	Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/eb

HKR 001 1354

October 11, 1967.

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York.

Re: Wells No's. N3450, 5308, 5390

Gentlemen:

The water consumption of the three wells for the month of ~~September~~, 1967 was:

Well No. N3450	No Running	
Well No. N5308	Present Meter Reading	332,652,5 0
	Previous Meter Reading	331,200,6 0
		1,451,9 0
Well No. N5390	No Running	

Very truly yours,

A. P. Meuer
Maintenance Supervisor

APM/eb

September 8, 1967.

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York.

Re: Wells No's. N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the months of June, July and August, 1967 was:

Well No. N3450	Not Running
Well No. N5368	Present Meter Reading 331,200,600
	Previous Meter Reading 326,513,600
	4,687,000
Well No. N5390	Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/ab

HKR 001 1356

June 6, 1967

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Wells #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of May, 1967, was:

Well #N3450	Not Running	
Well #N5368	Present Meter Reading	326,513,600
	Previous Meter Reading	325,171,700
		1,341,900
Well #N5390	Not Running	

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/vgd

HKR 001 1357

May 5, 1967

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Wells #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of April, 1967, was:

Well #N3450	Not Running	
Well #N5368	Present Meter Reading	325,171,700
	Previous Meter Reading	323,949,600
		1,222,100
Well #N5390	Not Running	

Very truly yours,

A. Heuer
Maintenance Supervisor

AH/vgd

April 3, 1967

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of March, 1967, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	323,949,600
Previous " "	322,748,100
	1,201,500
Well #N5390	Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/vd

March 1, 1967

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of February, 1967, was:

Well #N3450 Not Running

Well #N5368

Present Water Reading	322,748,100
Previous " "	321,619,600
	1,128,500

Well #N5390 Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/vd

February 6, 1967

State Of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of January, 1967, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	321,619,600
Previous Meter Reading	320,280,500
	1,339,100
Well #N5390	Not Running

Very truly yours,

A. F. Hauer
Maintenance Supervisor

AFH/vd

January 9, 1967

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #N3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of December, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	320,280,500
Previous Meter Reading	318,993,700
	1,286,800
Well #N5390	Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/vd

December 7, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #H3450, 5368, 5390

Gentlemen:

The water consumption of the three wells for the month of November, 1966, was:

Well #3450	Not Running
Well #H5368	
Present Meter Reading	318,993,700
Previous Meter Reading	317,884,900
	1,108,800
Well #H5390	Not Running

Very truly yours,

A. F. Heuer
Maintenance Supervisor

AFH/vd

November 8, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen: Re: Well #N3450, 5368, 5390

The water consumption of the above three wells for the month of October, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	317,884,900
Previous Meter Reading	316,729,700
	1,155,200
Well #N5390	Not running

Very truly yours,

A. P. Hauer
Master Mechanic

APH/vd

October 5, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Re: Well #N3450, 5368, 5390

Gentlemen:

The water consumption of the above three wells for the month of September, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	316,729,700 gallons
Previous Meter Reading	315,175,200 gallons
	1,554,500 gallons
Well #N5390	Not Running

Very truly yours,

A. P. Heuer
Master Mechanic

APH/vd

September 2, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Wasebury, New York

Gentlemen:

Re Well #N3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of August, 1966 was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	315,175,200 gallons
Previous Meter Reading	312,450,800 gallons
	2,724,400 gallons
Well #N5390	Not Running

Very truly yours,

A. F. Heuer
Master Mechanic

AFH:ms

August 5, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Re Well #N3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of June, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	312,367,600 gallons
Previous Meter Reading	310,622,800 gallons
	1,744,800 gallons
Well #N5390	Not Running

The water consumption of the above three wells for the month of July, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	312,450,800 gallons
Previous Meter Reading	312,367,600 gallons
	83,200 gallons

Very truly yours,

A. F. Bauer
Master Mechanic

AFB:ma

HKR 001 1367

June 1, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

RE Well #N3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of May, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	310,622,800 gallons -
Previous Meter Reading	309,635,000 gallons
	987,800 gallons
Well #N5390	Not Running

Very truly yours,

A. F. Hauer
Master Mechanic

AFH:ms

May 2, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Re Well #N3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of April, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	309,635,000 gallons
Previous Meter Reading	308,659,900 gallons
	975,100 gallons
Well #N5390	Not Running

Very truly yours,

A. F. Bauer
Master Mechanic

AFB:ms

April 4, 1966
E-02-66

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Re Well #3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of March, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	308,659,900 gallons
Previous Meter Reading	307,721,000 gallons
	938,900 gallons
Well #N5390	Not Running

Very truly yours,

A. F. Maurer,
Master Mechanic

AFM:ms

March 1, 1966

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Re Well #N3450, Well #N5368, Well #N5390

The water consumption of the above three wells for the month of February, 1966, was:

Well #N3450	Not Running
Well #N5368	
Present Meter Reading	307,721,000 gallons
Previous Meter Reading	306,849,300 gallons
	871,700 gallons
Well #N5390	Not Running

Very truly yours,

A. F. Hauer,
Master Mechanic

AFH:ns

February 3, 1966
E9-10
Februar/

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Reference: Well #N3450, Well #N5368, & Well #N5390

The water consumption of the above three wells for the month of January, 1966 was as follows:

Well #N3450	
Meter Reading January 1	47,600 gal.
Meter Reading February 1	47,600 gal.
Well #N5368	
Meter Reading February 1	306,849,300 gal.
Meter Reading January 1	306,067,200 gal.
	782,100 gal.
Well #N5390	
Meter Reading January 1	87,136,300 gal.
Meter Reading February 1	87,136,300 gal.

Sincerely,

August F. Heuer
Master Mechanic

P. De[illegible]
mc

January 3, 1966
E-1-6-AH-bs

State of New York
Water Resources Commission
373 Maple Avenue
Westbury, New York

Gentlemen:

Reference: Well #N3450, Well #N5368, and Well #N5390

The water consumption of the above three wells for the month of December, 1965 was as follows:

Well #N3450	
Meter Reading December 1	47,600 gal.
Meter Reading January 1	47,600 gal.
Well #N5368	
Meter Reading December 1	305,219,500 gal.
Meter Reading January 1	306,067,200 gal.
	847,700 gallons
Well #N5390	
Meter Reading December 1	87,136,300 gal.
Meter Reading January 1	87,136,300 gal.

Sincerely yours,

August F. Hauer
Master Mechanic

P. DeVries

HKR 001 1373

DATE	# 1 #N3450	# 2 #N5368	# 3 #N5390
6/66	not running	Cons. 1,744,800 M.R. 312,367,600	not running
7/66	not running	Cons. 83,200 M.R. 312,450,800	not running
8/66	not running	Cons. 2,724,400 M.R. 315,175,200	not running
9/66	not running	Cons. 1,554,500 M.R. 316,729,700	not running
10/66	not running	Cons. 1,155,200 M.R. 317,884,900	not running
11/66	not running	Cons. 1,108,800 M. R. 318,993,700	not running
12/66	not running	Cons. 1,286,800 M. R. 320,280,500	not running
1/67	not running	Cons. 1,339,100 M. R. 321,619,600	not running
2/67	not running b	Cons. 1,128,500 M. R. 322,748,100	not running
3/67	not running	M. R. 323,949,600 Cons. 1,201,500	not running
4/67	not running	M. R. 325,171,700 Cons. 1,222,100	not running
7/67	not running	M. R. 281,127,100 Cons. 297,044,600	not running
1/1/68		M.R. 335,349,200	
1/1/69		" 345,069,200	
1/1/69		" 351,511,500	

Cons. * Consumption

HKR 001 1374

DATE	#N3450	#N5363	#N5390
10/64		803,800 gallons	564,400 gallons
11/64		694,000 gallons	1,528,000 gallons
12/64		854,700 gallons	1,486,900 gallons
1/65		938,700 gallons	1,653,100 gallons
2/65		837,000 gallons	728,000 gallons
3/65		1,062,600 gallons	500 gallons
4/1		1,146,300 gallons	4,400 gallons
6/1/65	not running	1,255,600 gallons	not running
8/65 (May, June, July, August)	not running	3,163,000 gallons	not running
9/65	not running	1,744,300 gallons	not running
10/65	M.R. 47,600 Nov. 1 Cons. not running	M.R. 304,399,600 Nov. 1 cons. 916,300	M.R. 87,136,300 Cons. 4,400 not running
11/65	M. R. Cons. not running	Cons. 819,900 M. R. 305,219,500	Cons, M. R, not running
12/65	M. R. Cons. not running	~~M. R.~~ Cons 847,700 ~~Cons.~~ M/R 306,067,200	Cons. M. R. not running
1/66	Cons, M. R, not running	Cons. 7,82,100 M.R. 306,849,300	Cons, M.R, Not running
2/66		Cons. 871,700 M.R. 307,721,000	
3/66		Cons. 938,900 M. R. 308,659,900	
4/66		Cons. 975,000 M.R. 309,635,000	
5/66		Cons. 987,800 M.R. 310,622,800	

M. R. = Meter Reading
Cons. = Consumption

Ra O'Reilly

WELL WATER CONSUMPTION

DATE	#N3450	#N5368	#N5390
10/62		409,000 gal	636,100 gal
11/62		378,700 gal	
12/62		379,800 gal	
1/63		476,100 gal	
2/63		353,400 gal	
3/63		505,500 gal	
4/63		653,800 gal	
5/63		975,600 gal	
6/63		616,200 gal	
7/63		1,493,400 gal	
8/63 9/63	(combined reading)	2,131,300 gal	6,745,000 gal
10/63		969,500 gal	1,281,600 gal
11/63		986,400 gal	572,800 gal
12/63		929,300 gal	1,620,500 gal
1/64		906,700 gal	860,900 gal
2/64		950,700 gal	1,086,500 gal
3/64		978,500 gal	1,210,800 gal
4/64		1,053,200 gal	1,455,900 gal
5/64		965,400 gal	1,652,100 gal
6/64		1,214,000 gal	2,299,700 gal
7/64		1,427,100 gal	1,658,500 gal
8/64		1,450,900 gal	390,700 gal
9/64		1,150,100 gal	Out of Order

3-63 → 3-64
24,369,520 / 365 = 68,400 GPD

HKR 001 1376

WELL WATER CONSUMPTION

ate	#N3450	#N5368	#N5390
. 61		10,783,700 Gallons	335,600 Gallons
2 '61		8,406,800 Gallons	134,800 Gallons
3/61		8,599,900 Gallons	134,300 Gallons
+ 61		9,263,467 Gallons (Meter out of order. Above figure is an average of the past three months' total consumption for this well.)	389,000 Gallons
5/61		7,569,300 Gallons	240,600 Gallons
6 61		12,560,400 Gallons	813,800 Gallons
7/61		1,960,500 Gallons	1,387,800 Gallons
-/61		716,000 Gallons	2,301,800 Gallons
: '61		707,000 Gallons	1,150,900 Gallons (estimated reading - well is being repaired.)
-)/61		973,900 Gallons	986,500 Gallons
11/61		1,792,100 Gallons	904,500 Gallons
-2/61		793,700 Gallons	754,600 Gallons
1/62		735,200 Gallons	610,100 Gallons
2/62		274,400 Gallons	522,700 Gallons
3/62		265,500 Gallons	442,000 Gallons
4/62		315,300 Gallons	431,900 Gallons
5/62		406,100 Gallons	941,700 Gallons
7/62		1,599,000 Gallons	2,482,900 Gallons
8/62		587,000 Gallons	908,700 Gallons
-9/62		410,500 Gallons	903,400 Gallons

WELL WATER CONSUMPTION

	#N3450	#N5368	#N5390
-60	8,835,100 Gallons	3,523,300 Gallons	1,191,100 Gallons
')	well being repaired	2,104,900 "	790,900 "
/60	" " "	7,198,500 "	1,230,000 "
/6)	" " "	9,503,700 "	653,100 "
'60	8,300 Gallons	8,982,800 "	2,000 "
'6∪	16,100 "	10,803,700 "	537,900 "
'6	23,200 "	4,751,800 "	574,200 "
'60	-	12,741,900 "	566,400 "
'6	-	10,167,200 "	1,722,500 "
/60	-	11,884,000 "	744,400 "
/∪0	-	10,337,100 "	988,300 "
' 0	-	10,271,300 "	332,200 "

HKR 001 1378

APPENDIX 14

Additional Water-Level Monitoring Data

TABLE 1

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
A-1	137.51	01/24/92	62.88	74.63
		02/21/92	63.50	74.01
		03/27/92	63.93	73.58
		04/24/92	64.42	73.09
		05/29/92	65.96	71.55
		06/26/92	66.34	71.17
A-2	136.73	01/24/92	62.26	74.47
		02/21/92	62.83	73.90
		03/27/92	63.20	73.53
		04/24/92	63.80	72.93
		05/29/92	65.39	71.34
		06/26/92	65.79	70.94
B-1	132.65	01/24/92	58.30	74.35
		02/21/92	58.88	73.77
		03/27/92	59.33	73.32
		04/24/92	59.85	72.80
		05/29/92	61.42	71.23
		06/26/92	61.85	70.80
B-2	132.65	01/24/92	58.31	74.34
		02/21/92	58.88	73.77
		03/27/92	59.34	73.31
		04/24/92	59.88	72.77
		05/29/92	61.43	71.22
		06/26/92	61.86	70.79
C-1	135.61	01/24/92	58.77	76.84
		02/21/92	NM	–
		03/27/92	58.66	76.95
		04/24/92	59.34	76.27
		05/29/92	62.72	72.89
		06/26/92	62.71	72.90
C-2	133.55	01/24/92	61.46	72.09
		02/21/92	NM	–
		03/27/92	62.46	71.09
		04/24/92	63.01	70.54
		05/29/92	64.65	68.90
		06/26/92	65.05	68.50

TABLE 1
(continued)

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
G-1	130.91	01/24/92	56.86	74.05
		02/21/92	57.43	73.48
		03/27/92	57.86	73.05
		04/24/92	58.39	72.52
		05/29/92	59.91	71.00
		06/26/92	60.37	70.54
G-2	130.56	01/24/92	56.53	74.03
		02/21/92	57.09	73.47
		03/27/92	57.54	73.02
		04/24/92	58.07	72.49
		05/29/92	59.60	70.96
		06/26/92	61.09	69.47
H-1	130.39	01/24/92	56.62	73.77
		02/21/92	57.11	73.28
		03/27/92	57.69	72.70
		04/24/92	58.15	72.24
		05/29/92	59.35	71.04
		06/26/92	60.06	70.33
H-2	130.17	01/24/92	56.48	73.69
		02/21/92	57.03	73.14
		03/27/92	57.46	72.71
		04/24/92	57.98	72.19
		05/29/92	59.54	70.63
		06/26/92	60.07	70.10
I-1	129.68	01/24/92	56.07	73.61
		02/21/92	56.60	73.08
		03/27/92	57.02	72.66
		04/24/92	57.53	72.15
		05/29/92	59.02	70.66
		06/26/92	59.60	70.08
I-2	130.02	01/24/92	56.44	73.58
		02/21/92	56.96	73.06
		03/27/92	57.39	72.63
		04/24/92	57.94	72.08
		05/29/92	59.46	70.56
		06/26/92	NM	–

TABLE 1
(continued)

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
J-1	132.29	01/24/92	58.79	73.50
		02/21/92	59.40	72.89
		03/27/92	59.78	72.51
		04/24/92	60.34	71.95
		05/29/92	61.76	70.53
		06/26/92	62.36	69.93
J-2	132.28	01/24/92	58.91	73.37
		02/21/92	59.44	72.84
		03/27/92	59.83	72.45
		04/24/92	60.42	71.86
		05/29/92	61.93	70.35
		06/26/92	62.50	69.78
K-1	130.56	01/24/92	57.25	73.31
		02/21/92	57.86	72.70
		03/27/92	58.21	72.35
		04/24/92	58.79	71.77
		05/29/92	60.26	70.30
		06/26/92	60.84	69.72
K-2	130.55	01/24/92	57.29	73.26
		02/21/92	57.85	72.70
		03/27/92	58.21	72.34
		04/24/92	58.83	71.72
		05/29/92	60.29	70.26
		06/26/92	60.92	69.63
L-1	131.52	01/24/92	57.66	73.86
		02/21/92	58.28	73.24
		03/27/92	58.66	72.86
		04/24/92	59.24	72.28
		05/29/92	60.73	70.79
		06/26/92	61.25	70.27
L-2	131.68	01/24/92	57.99	73.69
		02/21/92	58.57	73.11
		03/27/92	58.94	72.74
		04/24/92	59.55	72.13
		05/29/92	61.12	70.56
		06/26/92	61.14	70.54

TABLE 1
(continued)

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
M-1	135.61	01/24/92	61.36	74.25
		02/21/92	61.98	73.63
		03/27/92	62.37	73.24
		04/24/92	62.92	72.69
		05/29/92	64.45	71.16
		06/26/92	64.92	70.69
N-1	134.23	01/24/92	59.16	75.07
		02/21/92	NM	–
		03/27/92	60.26	73.97
		04/24/92	60.67	73.56
		05/29/92	61.99	72.24
		06/26/92	62.46	71.77
O-1	134.75	01/24/92	60.18	74.57
		02/21/92	60.88	73.87
		03/27/92	61.27	73.48
		04/24/92	61.76	72.99
		05/29/92	63.15	71.60
		06/26/92	63.65	71.10
P-1	132.32	01/24/92	58.52	73.80
		02/21/92	59.12	73.20
		03/27/92	59.50	72.82
		04/24/92	60.05	72.27
		05/29/92	61.58	70.74
		06/26/92	NM	–
Q-1	132.70	01/24/92	58.68	74.02
		02/21/92	59.29	73.41
		03/27/92	59.72	72.98
		04/24/92	60.22	72.48
		05/29/92	61.72	70.98
		06/26/92	62.22	70.48
R-1	136.07	01/24/92	60.91	75.16
		02/21/92	61.65	74.42
		03/27/92	62.02	74.05
		04/24/92	62.46	73.61
		05/29/92	63.83	72.24
		06/26/92	64.05	72.02

TABLE 1
(continued)

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
S-1	133.21	01/24/92	57.27	75.94
		02/21/92	57.98	75.23
		03/27/92	58.22	74.99
		04/24/92	58.66	74.55
		05/29/92	59.91	73.30
		06/26/92	59.99	73.22
S-2	133.21	01/24/92	58.68	74.53
		02/21/92	59.17	74.04
		03/27/92	59.67	73.54
		04/24/92	60.07	73.14
		05/29/92	61.77	71.44
		06/26/92	62.13	71.08
T-1	131.21	01/24/92	57.01	74.20
		02/21/92	57.69	73.52
		03/27/92	58.06	73.15
		04/24/92	58.63	72.58
		05/29/92	60.16	71.05
		06/26/92	60.67	70.54
T-2	131.37	01/24/92	57.41	73.96
		02/21/92	58.03	73.34
		03/27/92	58.40	72.97
		04/24/92	59.03	72.34
		05/29/92	60.67	70.70
		06/26/92	60.60	70.77
N-10812	135.54	01/24/92	60.43	75.11
		02/21/92	60.99	74.55
		03/27/92	61.44	74.10
		04/24/92	61.98	73.56
		05/29/92	63.57	71.97
		06/26/92	63.87	71.67
N-10593	128.50	01/24/92	55.07	73.43
		02/21/92	55.67	72.83
		03/27/92	56.04	72.46
		04/24/92	56.59	71.91
		05/29/92	58.02	70.48
		06/26/92	58.63	69.87

TABLE 1
(continued)

OCCIDENTAL CHEMICAL CORPORATION
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Summary of Monthly Water-Level Measurements

Well No.	TOC elevation (ft/msl)	Date	Depth to water (ft/btoc)	Water-level elevation (ft/msl)
PM-1	132.87	01/24/92	58.66	74.21
		02/21/92	59.29	73.58
		03/27/92	59.75	73.12
		04/24/92	60.25	72.62
		05/29/92	61.63	71.24
		06/26/92	62.12	70.75
PM-2	127.99	01/24/92	54.92	73.07
		02/21/92	55.56	72.43
		03/27/92	55.96	72.03
		04/24/92	56.45	71.54
		05/29/92	NM	-
		06/26/92	NM	-
Airfield well (N10594)	126.66	01/24/92	53.98	72.68
		02/21/92	54.52	72.14
		03/27/92	54.85	71.81
		04/24/92	55.49	71.17
		05/29/92	56.85	69.81
		06/26/92	57.50	69.16
S.D. Bay Well (N10599)	107.60	01/24/92	40.81	66.79
		02/21/92	40.94	66.66
		03/27/92	41.68	65.92
		04/24/92	41.92	65.68
		05/29/92	41.80	65.80
		06/26/92	41.19	66.41
USGS Basin Well (out) (N10597)	109.85	01/24/92	40.17	69.68
		02/21/92	40.56	69.29
		03/27/92	40.94	68.91
		04/24/92	41.48	68.37
		05/29/92	42.04	67.81
		06/26/92	42.44	67.41

occhic.tbl/92-35

APPENDIX 15

Surveyor's Report

Nassau County
Bench Marks
Department of Public Works

Highways & General Engineering

NASSAU COUNTY BENCH MARKS
Introduction

Bench marks listed in this book have been established by the topographic Section of the Department of Public Works.

PROCEDURE:

Prior to 1932, all spirit level work throughout the County was done by using an arbitrary datum, differing according to locality and the engineer doing the work.

Cognizant of the need for a uniform datum, the County Engineer, in 1932 caused to be established a County-wide system of Vertical Control; one result of this project was the publication of the first edition of the "County of Nassau Bench Marks" book in 1934.

DATUM:

The datum plane used on this project is based on mean sea level at Sandy Hook, New Jersey, as determined by the United States Coast and Geodetic Survey by observations and records of tidal gauges over a period of years. Mean sea level is the average height of the surface of all stages of the tide being considered.

As there were several of the United States Coast and Geodetic Survey bench marks located throughout the County, the "County Section Control" network was expanded from these.

BENCH MARK INDENTIFICATION:

The County Standard bench mark monument set prior to 1949 is a concrete truncated pyramid being four feet deep with an eight inch square and an eight inch square top. A bronze cylindrical plug three quarters of an inch in diameter and one and three quarters of an inch long is inserted to a depth to allow protrusion approximately one eighth of an inch above the top of the concrete. The elevation given is the top of this plug.

All monuments set since 1949 have a disc similar in size and shape to the United States Coast and Geodetic survey bronze disc. Its face stamped as follow: Department of Public Works, Nassau County, Bench Mark, Elev...,FT....;$250 fine for disturbing this mark. The elevation given is at the top center of the disc. Other primary bench marks have been established on solid structures such as catch basins, head walls, etc., a cut in the concrete defines the point of elevation.

ACCURACY OF ELEVATIONS:

All elevations in this book are to the nearest thousandths of a foot above the County datum.

All leveling was held well within the specifications of the first order leveling of the Board of Surveys and maps of the Federal Government. The allowable error of closure under the specifications mentioned above is 0.017 feet per circuit mile. The actual average error of closure in Nassau County was 0.0097 feet per circuit mile based on the original network of 435 linear miles.

The allowable error as established by Nassau County for all circuits was governed by the following formula: Four ten thousandths times the square root of the distance in feet. (0.0004 distance in feet)

CHANGE IN BENCH MARKS:

Although a bench mark may appear to be quite permanent in character, the elevation may have been changed due to settling or other uncontrollable circumstances. Engineers are therefore cautioned to tie in with two or more bench marks whenever possible.

NASSAU COUNTY DEPT. OF PUBLIC WORKS - BENCHMARKS

14S03 G395 HICKSVILLE OYSTER BAY 08/76 26

ELEV. 134.965 SQ. CUT ON WEST CURB OF BROADWAY DIRECTLY IN FRONT OF LILCO. POLE NO. 22. 358' NORTH OF CENT. LINE OF FARM LN. CK 9/69 RN 8/76 GR

14S04 G396 HICKSVILLE OYSTER BAY 08/76 26

ELEV. 114.179 SQ. CUT ON CONC. FOOTING OF FENCE ON NORTHEAST CORNER OF SUMP NO. 159 25.5' WEST OF CENT. LINE OF BLOOMINGDALE RD. 270.5' NORTH OF CENT. LINE OF MICHIGAN DRIVE 200' SOUTH OF CENT. LINE INTERSECTION WITH BROADWAY CK 5/67 MX 8/76 GR

14S05 G399 BETHPAGE OYSTER BAY 08/76 26

ELEV. 116.194 SQ. CUT ON SOUTHWEST CORNER OF LIGHT STANDARD OF VEEDOL GAS STA. 30' EAST OF CENT. LINE OF HICKSVILLE RD. 139' NORTH OF CENT. LINE OF LOUIS ST. CK 11/57 WA 8/62 MX 1/64 MX 5/67 MX 8/76 GR

14S06 G395A HICKSVILLE OYSTER BAY 02/78 26

ELEV. 134.987 SQ. CUT ON THE WESTSIDE OF CONC. CURB OF LEE AVE. ON THE EXT'D CENT. LINE OF FARM LANE. CK 2/78 GR

14S07 G518 HICKSVILLE OYSTER BAY 08/76

ELEV. 131.368 SQ. CUT ON WEST WALL CENT. OF 16.7'X10.7' CONC. METER PIT 30.5' EAST OF CENT. LINE OF NEW SOUTH RD. ON NORTH SIDE OF ENTRANCE OF RUBBER CORPORATION OF AMERICA 315' NORTH OF CENT. LINE OF DOUBLE TRACKS OF RAILROAD 9.5' SOUTH OF LILCO. POLE NO. 19. CK 5/67 MX 8/76 GR

14S08 G519 HICKSVILLE OYSTER BAY 08/76

ELEV. 119.988 SQ. CUT IN CENT. OF SIDEWALK 40' EAST OF CENT. LINE OF TRAVELED RD. OF NEW SOUTH RD. 30' SOUTH OF CENT. LINE OF MULBERRY ST. CK 12/57 MX 8/62 MX 5/67 MX 8/76 GR

14S09 G653 HICKSVILLE OYSTER BAY 08/62 26

ELEV. 111.474 SQ. CUT ON SOUTH WALL OF CATCHBASIN 18' WEST OF CENT. LINE OF BLOOMINGDALE RD. 53' SOUTH OF NYT POLE NO. 10J 557' SOUTH OF CENT. LINE OF MICHIGAN DRIVE 157' NORTH OF CENT. LINE OF SCHRIMPE COURT CK 8/62 MX

14S10 H284X HICKSVILLE OYSTER BAY 08/76 26

ELEV. 124.807 SQ. CUT ON NORTH CURB OF GERALD ST. 96.5' EAST OF CENT. LINE OF BROADWAY CK 9/69 RN 8/76 GR

14S11 H521 HICKSVILLE OYSTER BAY 02/78 26

ELEV. 133.176 SQ. CUT ON WEST CURB OF BROADWAY 47.5' SOUTH OF CENT. LINE OF LEWIS ST. DIRECTLY IN FRONT OF LILCO. POLE NO. 29. CK 9/69 RN 2/78 GR

14S12 H523 HICKSVILLE OYSTER BAY 02/78 26

ELEV. 125.451 SQ. CUT ON EAST CURB OF GARDEN BLVD. ON EXT'D. CENT. LINE OF BALSAM LN. CK 12/69 RN 2/78 GR

*GROUND SHOTS Fri Feb 16 09:04:02 1990

Point		Coordinates	Elevation	Desc / Type
290	N	2137310	132.96	M-1
	E	194316		
320	N	2136768	130.50	B-1
	E	194488		
321	N	2136768	130.49	B-2
	E	194488		
322	N	2136922	130.47	Q-1
	E	194178		
323	N	2136821	128.98	G-1
	E	194251		
324	N	2136809	128.90	G-2
	E	194260		
326	N	2137170	130.75	H-1
	E	193937		
327	N	2137164	130.65	H-2
	E	193943		
335	N	2137640	132.79	O-1
	E	194248		
339	N	2137655	130.11	D-1
	E	194030		
341	N	2137655	130.05	D-2
	E	194030		
348	N	2137634	130.00	P-1
	E	193893		
350	N	2137685	130.19	E-2
	E	193872		
361	N	2137634	129.84	F-2
	E	193642		
363	N	2137547	129.82	J-1
	E	193640		
366	N	2137541	129.68	J-2
	E	193643		
370	N	2137339	130.38	I-1

	E	193796		
372	N	2137333	130.40	I-2
	E	193800		
409	N	2137683	128.6	K-1
	E	193569		
410	N	2137678	128.8	K-2
	E	193575		
412	N	2137709	129.9	L-1
	E	193970		
413	N	2137709	129.94	L-2
	E	193980		
421	N	2137936	131.68	T-1
	E	194232		
422	N	2137935	131.75	T-2
	E	194243		
424	N	2137635	133.54	S-1
	E	194693		
425	N	2137634	133.61	S-2
	E	194702		
427	N	2137538	134.04	R-1
	E	194551		
432	N	2137558	131.7	C-2
	E	194353		
434	N	2137539	131.5	N-1
	E	194346		
440	N	2137640	132.83	O-1
	E	194248		
381	N	2137495	134.16	A-1
	E	194562		
27	N	2136158	128.34	PM-2
	E	193170		
29	N	2136038	133.14	PM-1
	E	194124		

1"=50' DWG

Drawing: ' OXYPNTS' (OXY50.DAT) Wed Jan 31 10:35:46 1990

Point		Coordinates	Elevation	Desc / Type
225	N	194544.61	136.00	AM-1 AIR MONITOR
	E	2136941.86		
242	N	193996.05	134.59	AM-5 AIR MONITOR
	E	2137096.99		
301	N	194442.40	135.72	AM-2 AIR MONITOR
	E	2137555.57		
329	N	194029.61	133.17	AM-3 AIR MONITOR
	E	2137653.39		
354	N	193692.85	132.31	AM-4 AIR MONITOR
	E	2137589.27		
226	N	194477.19	132.1	SG-2
	E	2136937.99		
227	N	194427.07	131.6	SG-3
	E	2136940.57		
228	N	194377.21	131.4	SG-4
	E	2136942.86		
229	N	194327.25	130.9	SG-5
	E	2136945.04		
230	N	194277.37	130.9	SG-6
	E	2136947.33		
231	N	194227.42	130.7	SG-7
	E	2136949.07		
232	N	194177.50	130.2	SG-8
	E	2136951.08		
236	N	194128.55	130.8	SG-9
	E	2137003.02		
239	N	194129.68	131.9	SG-16
	E	2137053.53		
246	N	194131.17	131.7	SG-19
	E	2137103.06		
252	N	194181.05	131.4	SG-18
	E	2137101.23		
251	N	194182.50	132.5	SG-20
	E	2137151.34		

271	N	194576.95	133.2	SG-1
	E	2136933.01		
253	N	194179.45	131.1	SG-15
	E	2137051.20		
254	N	194178.50	130.8	SG-10
	E	2137001.21		
255	N	194231.41	130.9	SG-11
	E	2137002.31		
256	N	194229.78	131.0	SG-14
	E	2137049.14		
257	N	194278.44	131.4	SG-12
	E	2136997.08		
263	N	194279.62	132.0	SG-13
	E	2137047.09		
267	N	194231.11	132.0	SG-17
	E	2137099.21		
401	N	193704.26	128.9	SG-61
	E	2137583.72		
426	N	194566.52	133.8	SG-53
	E	2137242.56		
428	N	194593.95	133.8	SG-58
	E	2137604.89		
429	N	194436.03	132.7	SG-77
	E	2137393.28		
430	N	194373.07	131.6	SG-80
	E	2137561.48		
431	N	194465.73	133.6	SG-79
	E	2137544.92		
435	N	194510.87	133.6	SG-23
	E	2137286.10		
436	N	194360.89	132.4	SG-36
	E	2137274.83		
438	N	194186.38	131.4	SG-50
	E	2137658.51		
439	N	194238.33	132.1	SG-49
	E	2137647.71		
441	N	194335.11	130.0	SG-37
	E	2136888.82		

442	N E	194185.82 2136895.73	130.3	SG-40
405	N E	193789.63 2137651.24	124.6	SG-67
338	N E	194029.70 2137655.00	132.35	D-1 MON WELL
201	N E	194488.16 2136767.55	132.65	B-1 MON WELL
202	N E	194488.37 2136767.74	132.65	B-2 MON WELL
214	N E	194177.62 2136921.66	132.70	Q-1 MON WELL
222	N E	194250.82 2136821.23	130.91	G-1 MON WELL
224	N E	194259.77 2136809.14	130.56	G-2 MON WELL
244	N E	193937.20 2137169.72	130.39	H-1 MON WELL
245	N E	193943.31 2137164.17	130.17	H-2 MON WELL
276	N E	194315.98 2137309.86	135.61	M-1 MON WELL
383	N E	193871.56 2137684.88	132.98	E-1 MON WELL
349	N E	193871.85 2137684.90	132.71	E-2 MON WELL
360	N E	193641.67 2137634.01	131.54	F-2 MON WELL
362	N E	193639.71 2137546.68	132.29	J-1 MON WELL
365	N E	193642.66 2137541.48	132.28	J-2 MON WELL
371	N E	193800.16 2137333.14	130.02	I-2 MON WELL
382	N E	194603.70 2137301.17	136.73	A-2 MON WELL
369	N E	193795.99 2137338.82	129.68	I-1 MON.WELL
340	N	194029.61	132.21	D-2 MON WELL

	E	2137655.33		
380	N	194603.30	137.51	A-1 MON.WELL
	E	2137301.10		
358	N	193641.72	131.81	F-1 MON.WELL
	E	2137633.60		
347	N	193893.35	132.32	P-1 MON WELL
	E	2137634.40		
452	N	194352.78	133.55	C-2 MON WELL
	E	2137558.16		
453	N	194352.71	135.61	C-1 MON WELL
	E	2137558.46		
454	N	194345.53	134.23	N-1 MON WELL
	E	2137539.08		
419	N	193876.07	132.00	PLANT WELL #3
	E	2137550.26		
455	N	194247.60	134.75	O-1 MON WELL
	E	2137640.38		
451	N	194551.34	136.07	R-1 MON WELL
	E	2137537.56		
278	N	194402.73	133.5	TB-25
	E	2137305.09		
283	N	194571.99	134.1	TB-22
	E	2137605.19		
288	N	194442.53	134.1	TB-26
	E	2137396.96		
291	N	194496.62	133.5	TB-27
	E	2137420.79		
298	N	194461.11	133.02	TB-20
	E	2137612.62		
299	N	194519.27	133.5	TB-21
	E	2137608.54		
302	N	194415.94	132.49	TB-19
	E	2137543.80		
306	N	194368.08	131.66	TB-18
	E	2137543.63		
307	N	194349.83	126.6	TB-28
	E	2137581.46		
308	N	194308.96	125.4	TB-29
	E	2137611.59		

310	N	194115.37	129.69	TB-39
	E	2137491.39		
311	N	194150.86	130.49	TB-40
	E	2137494.33		
312	N	194109.70	129.97	TB-12
	E	2137557.08		
313	N	194111.14	130.2	TB-13
	E	2137584.35		
314	N	194080.59	129.85	TB-8
	E	2137663.94		
315	N	194107.12	130.5	TB-9
	E	2137662.08		
316	N	193998.21	130.68	TB-37
	E	2137458.81		
317	N	193987.04	130.8	TB-38
	E	2137473.17		
330	N	194148.43	130.92	TB-17
	E	2137621.38		
331	N	194163.76	131.08	TB-15
	E	2137601.62		
332	N	194131.06	130.66	TB-14
	E	2137601.86		
333	N	194183.95	131.0	TB-16
	E	2137611.15		
336	N	194165.28	130.8	TB-11
	E	2137654.22		
337	N	194142.87	130.7	TB-10
	E	2137662.18		
342	N	193999.04	129.7	TB-35
	E	2137575.72		
343	N	194000.53	129.8	TB-34
	E	2137559.07		
344	N	193944.34	117.9	TB-31
	E	2137646.36		
345	N	193916.42	117.0	TB-30
	E	2137651.59		
346	N	193899.01	129.9	TB-P1
	E	2137627.13		

351	N E	193804.28 2137567.20	130.2	TB-24
352	N E	193733.70 2137587.66	126.0	TB-23
353	N E	193661.34 2137574.65	129.8	TB-2
355	N E	193740.16 2137640.58	124.5	TB-5A
356	N E	193745.65 2137643.22	125.1	TB-5
357	N E	193707.79 2137696.13	116.7	TB-32
367	N E	193677.67 2137502.78	129.7	TB-1
373	N E	194019.10 2137488.69	130.14	TB-36
374	N E	193677.91 2137673.34	116.0	TB-33
375	N E	193792.19 2137530.33	130.6	TB-7
376	N E	193806.32 2137508.94	131.0	TB-6
377	N E	193767.78 2137456.77	129.8	TB-3
378	N E	193749.65 2137483.60	129.5	TB-4
221	N E	194242.34 2136821.90	128.9	TB-GP
243	N E	193930.88 2137175.86	130.77	TB-HP
364	N E	193636.20 2137553.93	129.38	TB-JP
368	N E	193791.27 2137344.82	130.25	TB-IP
402	N E	193710.48 2137568.84	128.9	TB-43
403	N E	193789.09 2137579.29	129.8	TB-41
404	N	193801.37	129.6	TB-44

	E	2137666.95		
406	N	193703.95	129.3	TB-46
	E	2137637.92		
407	N	193664.93	129.7	TB-45
	E	2137580.02		
414	N	193959.50	129.9	TB-49
	E	2137608.42		
415	N	193980.95	129.4	TB-50A
	E	2137678.13		
416	N	193879.94	129.2	TB-48
	E	2137662.76		
417	N	193805.57	130.7	TB-42
	E	2137559.38		
418	N	193841.05	131.2	TB-47
	E	2137561.95		
272	N	194587.09	134.0	BB
	E	2137306.89		
273	N	194567.36	133.8	CC
	E	2137308.53		
274	N	194551.76	133.7	DD
	E	2137310.96		
275	N	194560.10	134.3	FF
	E	2137407.67		
277	N	194530.89	133.7	GG
	E	2137304.98		
279	N	194574.44	133.5	EE
	E	2137532.98		
280	N	194545.66	133.8	FF-1
	E	2137587.84		
281	N	194546.70	133.6	EE-1
	E	2137608.32		
285	N	194384.45	131.8	OO
	E	2137376.05		
286	N	194403.34	131.9	NN
	E	2137388.08		
287	N	194421.64	132.6	MM
	E	2137406.82		
289	N	194440.46	132.6	LL
	E	2137422.78		

290	N	194459.15	133.0	KK
	E	2137437.33		
292	N	194518.21	137.1	HH
	E	2137437.53		
293	N	194530.40	133.6	GG-1
	E	2137530.59		
294	N	194513.59	133.8	HH-1
	E	2137522.13		
295	N	194489.39	133.8	II-1
	E	2137537.50		
296	N	194453.58	133.2	KK-1
	E	2137510.58		
297	N	194434.42	132.9	JJ-1
	E	2137486.87		
300	N	194618.04	134.2	BB-1
	E	2137619.65		
303	N	194409.28	132.3	MM-1
	E	2137548.68		
304	N	194389.30	132.0	NN-1
	E	2137546.63		
305	N	194369.47	131.5	OO-1
	E	2137544.66		
318	N	194637.58	133.9	AA-1
	E	2137617.09		
309	N	194597.04	133.8	CC-1
	E	2137621.10		
203	N	194336.49	129.8	A
	E	2136790.88		
204	N	194331.12	129.4	B
	E	2136811.02		
205	N	194333.97	129.3	C
	E	2136830.44		
206	N	194334.18	129.4	D
	E	2136850.17		
207	N	194335.38	129.6	E
	E	2136870.16		
209	N	194337.45	130.1	FG
	E	2136900.13		

HKR 001 1400

210	N E	194339.76 2136910.62	130.4	G
211	N E	194340.89 2136930.13	130.9	H
212	N E	194158.34 2136936.55	130.4	H-1
213	N E	194170.79 2136919.52	130.3	G-1
215	N E	194178.37 2136909.29	130.2	FG-1
216	N E	194185.72 2136895.56	130.2	F-1
217	N E	194199.38 2136879.37	129.8	E-1
218	N E	194210.89 2136861.95	129.7	D-1
219	N E	194223.29 2136843.99	129.5	C-1
220	N E	194234.88 2136824.86	129.2	B-1
223	N E	194249.77 2136808.30	128.9	A-1
233	N E	194141.50 2136957.81	130.5	I-1
234	N E	194140.50 2136977.80	130.7	J-1
235	N E	194137.38 2136996.90	131.2	K-1
237	N E	194137.94 2137017.88	131.3	L-1
238	N E	194137.32 2137037.98	131.7	M-1
240	N E	194136.63 2137057.77	131.7	N-1
241	N E	194135.72 2137078.08	132.0	O-1
247	N E	194135.46 2137097.92	132.2	P-1
248	N	194139.70	132.0	Q-1

	E	2137117.82		
249	N	194142.00	132.3	R-1
	E	2137137.79		
250	N	194149.36	132.3	S-1
	E	2137156.93		
258	N	194341.57	131.3	I
	E	2136950.84		
259	N	194332.31	131.6	J
	E	2136971.82		
260	N	194321.36	131.5	K
	E	2136990.83		
261	N	194311.12	131.8	L
	E	2137011.34		
262	N	194293.28	132.0	M
	E	2137031.82		
264	N	194280.41	132.2	N
	E	2137052.27		
265	N	194263.65	132.1	O
	E	2137072.63		
266	N	194245.32	132.2	P
	E	2137093.02		
268	N	194228.23	132.5	Q
	E	2137114.02		
269	N	194211.95	132.1	R
	E	2137134.30		
270	N	194195.64	132.6	S
	E	2137155.05		
379	N	194606.48	134.0	AA
	E	2137298.66		

1" = 200' DWG

Drawing: ' OXY200' Wed Jan 31 10:34:19 1990

Point		Coordinates	Elevation	Desc / Type
408	N	193562.41	128.6	KP
	E	2137687.73		
411	N	193957.63	129.8	LP
	E	2137711.67		
423	N	194685.62	133.6	SP
	E	2137634.04		
420	N	194225.20	131.6	TP
	E	2137935.92		
338	N	194029.70	132.35	D-1 MON WELL
	E	2137655.00		
201	N	194488.16	132.65	B-1 MON WELL
	E	2136767.55		
202	N	194488.37	132.65	B-2 MON WELL
	E	2136767.36		
214	N	194177.62	132.70	Q-1 MON WELL
	E	2136921.66		
222	N	194250.82	130.91	G-1 MON WELL
	E	2136821.23		
224	N	194259.77	130.56	G-2 MON WELL
	E	2136809.14		
244	N	193937.20	130.39	H-1 MON WELL
	E	2137169.72		
245	N	193943.31	130.17	H-2 MON WELL
	E	2137164.17		
276	N	194315.98	135.61	M-1 MON WELL
	E	2137309.86		
334	N	194247.91	134.75	O-1 MON WELL
	E	2137640.39		
383	N	193871.56	132.98	E-1 MON WELL
	E	2137684.88		
349	N	193871.85	132.71	E-2 MON WELL
	E	2137684.90		

HKR 001 1403

360	N	193641.67	131.54	F-2 MON WELL
	E	2137634.01		
362	N	193639.71	132.29	J-1 MON WELL
	E	2137546.68		
365	N	193642.66	132.28	J-2 MON WELL
	E	2137541.48		
371	N	193800.16	130.02	I-2 MON WELL
	E	2137333.14		
382	N	194603.70	136.73	A-2 MON WELL
	E	2137301.17		
369	N	193795.99	129.68	I-1 MON.WELL
	E	2137338.82		
340	N	194029.61	132.21	D-2 MON WELL
	E	2137654.67		
380	N	194603.30	137.51	A-1 MON.WELL
	E	2137301.09		
358	N	193641.72	131.81	F-1 MON.WELL
	E	2137633.60		
347	N	193893.35	132.32	P-1 MON WELL
	E	2137634.40		
443	N	193569.07	130.56	K-1 MON WELL
	E	2137682.51		
444	N	193575.20	130.55	K-2 MON WELL
	E	2137678.20		
445	N	193970.12	131.52	L-1 MON WELL
	E	2137709.17		
446	N	193979.55	131.68	L-2 MON WELL
	E	2137709.20		
447	N	194232.31	131.21	T-1 MON WELL
	E	2137935.62		
448	N	194243.00	131.37	T-2 MON WELL
	E	2137934.57		
449	N	194693.41	133.21	S-1 MON WELL
	E	2137634.91		
450	N	194702.04	133.21	S-2 MON WELL
	E	2137633.80		

452	N E	194352.78 2137558.16	~~133.55~~ 135.55	C-2 MON WELL ✓
453	N E	194352.71 2137558.46	135.61	C-1 MON WELL ✓
454	N E	194345.53 2137539.08	134.23	N-1 MON WELL ✓
419	N E	193876.07 2137550.26	132.00 - 7.80'	PLANT WELL #1
451	N E	194551.34 2137537.56	136.07	R-1 MON WELL ✓
28	N E	194046.41 2136048.93	132.87	PM-1 MON WELL ✓
29	N E	194123.66 2136038.13	127.99	PM-2 MON WELL

Karen Ln
N10812 135.54

Airfield
N10594 126.66

RRx
N10593 128.50

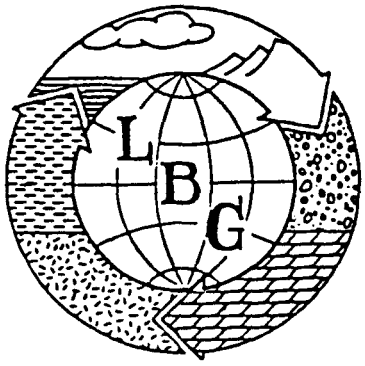
Jamco
N10598 106.48

Inside USGS
N10630 -? 110.66

Outside
N10597 - 109.85

107-SOBR
N10599 - 107.60

Best Cas 130.50



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